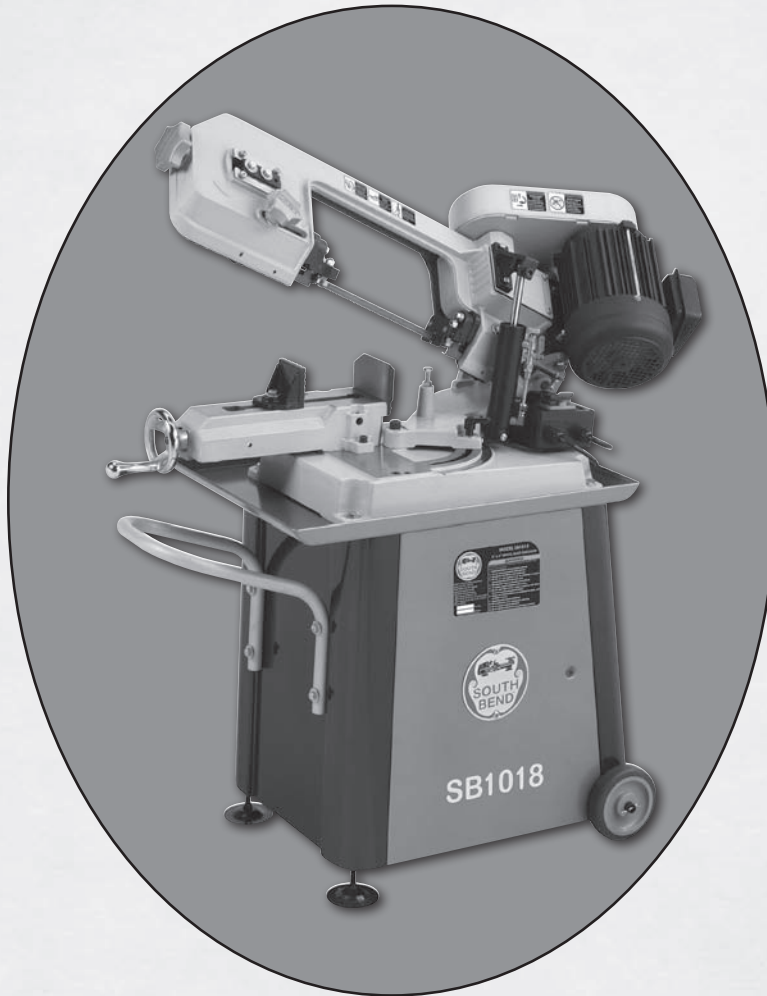




5" x 6" SWIVEL MAST BANDSAW

MODEL SB1018



OWNER'S MANUAL

South Bend Lathe Co.TM

Hundreds of Thousands of Lathes Sold With a Tradition of Quality Since 1906!



Scope of Manual

This manual helps the reader understand the machine, how to prepare it for operation, how to control it during operation, and how to keep it in good working condition. We assume the reader has a basic understanding of how to operate this type of machine, but that the reader is not familiar with the controls and adjustments of this specific model. As with all machinery of this nature, learning the nuances of operation is a process that happens through training and experience. If you are not an experienced operator of this type of machinery, read through this entire manual, then learn more from an experienced operator, schooling, or research before attempting operations. Following this advice will help you avoid serious personal injury and get the best results from your work.

Manual Feedback

We've made every effort to be accurate when documenting this machine. However, errors sometimes happen or the machine design changes after the documentation process—so the manual may not exactly match your machine. If a difference between the manual and machine leaves you in doubt, contact our customer service for clarification.

We highly value customer feedback on our manuals. If you have a moment, please share your experience using this manual. What did you like about it? Is there anything you would change to make it better? Did it meet your expectations for clarity, professionalism, and ease-of-use?

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Updates

For your convenience, any updates to this manual will be available to download free of charge through our website at:

www.southbendlathe.com

Customer Service

We stand behind our machines. If you have any service questions, parts requests or general questions about the machine, feel free to contact us.

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About This Machine

Capabilities

This metal cutting bandsaw uses a gravity-fed blade to make straight cuts through workpieces that are clamped in a vise. Since the workpiece is secured and remains stationary while the blade lowers automatically, accuracy and operator safety are maximized.

The vise on the Model SB1018 is capable of holding rectangular stock up to 5" x 6" and round stock up to 5".

After a cut is complete, the OFF switch is triggered and the motor automatically turns off.

Features

In addition to its capabilities, the Model SB1018 has several features to increase versatility and efficiency.

The headstock can be rotated to make angled cuts from -45° – 60° while three blade speeds ensure that the proper cutting rate is available for a variety of workpiece sizes and materials.

Both the downfeed rate and pressure are adjustable for fine-tuning each cutting operation and an adjustable auto-OFF power switch maximizes safety and minimizes energy use by turning the machine off at the end of every cut.

A storage compartment in the cabinet base provides a convenient location for keeping spare blades or other accessories and the transport handle makes moving the machine easy.

Finally, the cast-aluminum knobs and belt cover proudly bear the legendary South Bend name.

Identification

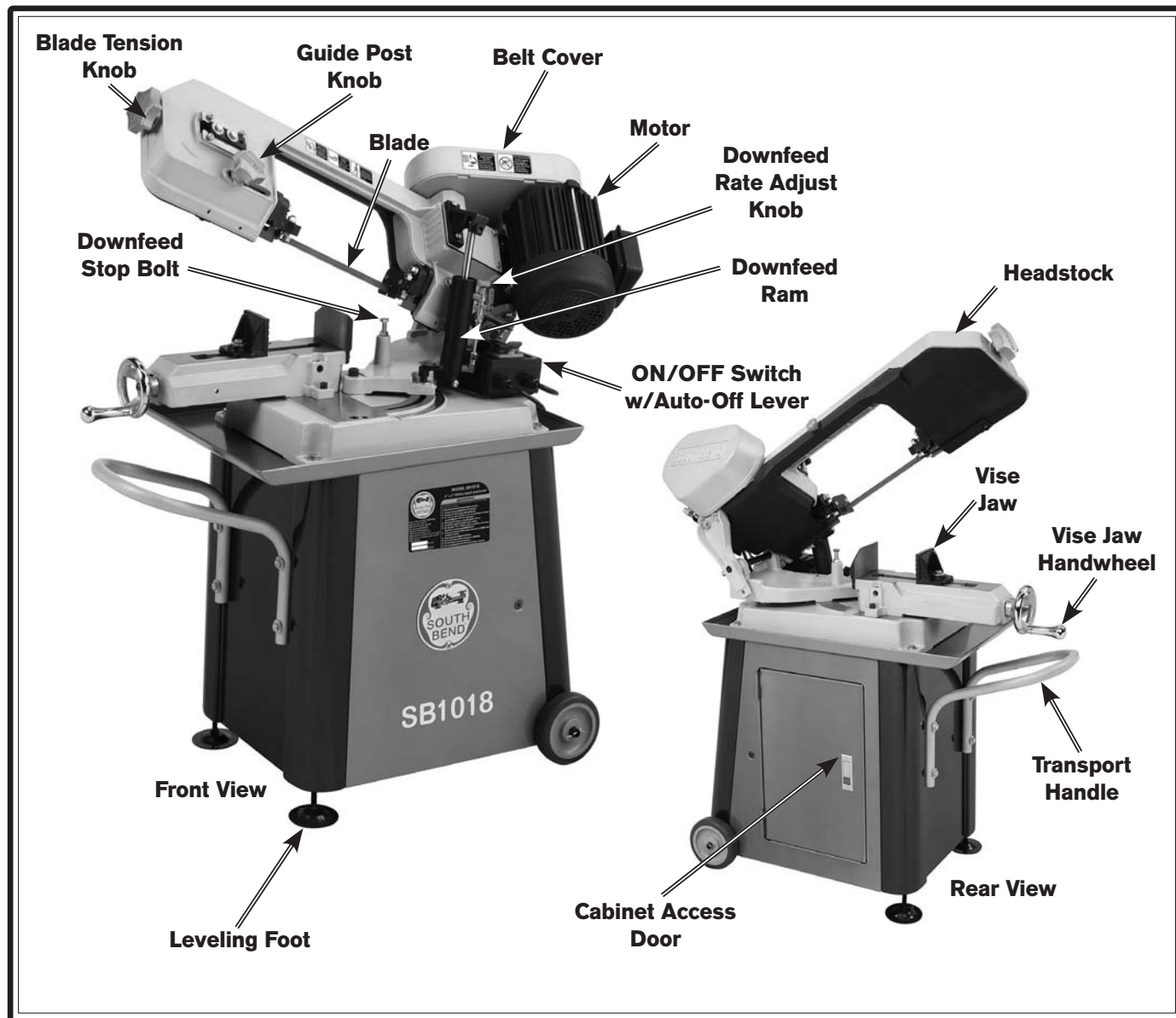


Figure 1. Identification.

!WARNING

Serious personal injury could occur if you connect the machine to power before completing the setup process. **DO NOT** connect power until instructed to do so later in this manual.

!WARNING

Untrained users have an increased risk of seriously injuring themselves with this machine. Do not operate this machine until you have understood this entire manual and received proper training.

| | | |
|---|---|---|
|  | <h1 style="margin: 0;">Machine Specifications</h1> <p style="margin: 0;">P.O. Box 2027, Bellingham, WA 98227 U.S.A. PHONE: (360) 734-1540 • © South Bend Lathe Co. www.southbendlathe.com</p> |  |
|---|---|---|

Model SB1018 5" x 6" Swivel Mast Bandsaw

Product Dimensions:

| | |
|---|-------------------|
| Weight | 209 lbs. |
| Length/Width/Height | 38¾" x 17" x 42¼" |
| Foot Print (Length/Width) | 38¾" x 17" |
| Space Required for Full Range of Movement (Length/Width/Height) | 80" x 70" x 78" |

Shipping Dimensions:

| | |
|---------------------------|-----------------|
| Type | Carton |
| Weight | 214 lbs. |
| Length/Width/Height | 41" x 19" x 24" |

Electrical:

| | |
|--------------------------------------|-----------------------------------|
| Required Power Source | 110V or 220V, Single-Phase, 60 Hz |
| Switch | Push Button ON/OFF Switch |
| Switch Voltage | 110V |
| Cord Length | 7 ft. |
| Cord Gauge | 18 gauge |
| Minimum Circuit Size | 15 Amp |
| Plug Included | Yes |
| Included Plug Type | NEMA 5-15 for 110V |
| Recommended Plug Type for 220V | NEMA 6-15 |

Motors:

Main

| | |
|------------------------|---------------------------------|
| Type | TEFC Capacitor Start Induction |
| Horsepower | ½ HP |
| Voltage | 110V/220V |
| Phase | Single-Phase |
| Amps | 8.6/4.3A |
| Speed | 1725 RPM |
| Cycle | 60 Hz |
| Number Of Speeds | 1 |
| Pre-Wired | 110V |
| Power Transfer | V-Belt & Gear |
| Bearings | Shielded and Permanently Sealed |

Main Specifications:

Operation Information

| | |
|-------------------------|------------------|
| Head Swivel | 60 deg. |
| Blade Speeds | 80, 120, 200 FPM |
| Std. Blade Length | 64½" |
| Blade Size Range | ½" |

Cutting Capacities

| | |
|---|----------------------------------|
| Angle Cuts | 60 deg. |
| Vise Jaw Depth | 7 ⁷ / ₈ " |
| Vise Jaw Height | 2 ¹ / ₂ " |
| Max. Capacity Rect. Height At 90D | 5" |
| Max. Capacity Rect. Width At 90D | 6" |
| Max. Capacity Rnd. At 90D | 5" |
| Max. Capacity Rect. Height At 45D | 2 ⁵ / ₁₆ " |
| Max. Capacity Rect. Width At 45D | 3 ³ / ₄ " |
| Max. Capacity Rnd. At 45D | 3 ³ / ₄ " |
| Max. Capacity Rect. Height At 60D | 1 ¹ / ₂ " |
| Max. Capacity Rect. Width At 60D | 2 ³ / ₁₆ " |
| Max. Capacity Rnd. At 60D | 1 ¹ / ₂ " |

Construction

| | |
|--------------------------------|-----------|
| Wheel Construction Upper | Cast Iron |
| Wheel Construction Lower | Cast Iron |
| Body Construction | Cast Iron |
| Base Construction | Cast Iron |
| Stand Construction | Steel |
| Tire Material | Rubber |

Other

| | |
|--------------------------|-----|
| Wheel Size | 5" |
| Blade Guides Upper | Yes |
| Blade Guides Lower | Yes |

Table Info

| | |
|------------------------------------|----------------------------------|
| Floor to Cutting Area Height | 28 ¹ / ₈ " |
|------------------------------------|----------------------------------|

Other Specifications:

| | |
|--|------------------------|
| ISO Factory | ISO 9001 |
| Country Of Origin | Taiwan |
| Warranty | 1 Year |
| Serial Number Location | ID Label on Body Frame |
| Customer Setup and Cleaning Time | Approximately 1 Hour |

Features:

- Heavy-Duty Steel Stand
- Adjustable Hydraulic Down Feed
- Cast Iron Handwheel with Chromed Handle
- Die Cast South Bend Star Knobs
- Die Cast South Bend Belt Guard
- Built-In Storage Cabinet
- Leveling Feet and Wheels to Ease Mobility
- Swiveling Head
- Precision Ground Vise Deck and Table

Understanding Risks of Machinery

Operating all machinery and machining equipment can be dangerous or relatively safe depending on how it is installed and maintained, and the operator's experience, common sense, risk awareness, working conditions, and use of personal protective equipment (safety glasses, respirators, etc.).

The owner of this machinery or equipment is ultimately responsible for its safe use. This responsibility includes proper installation in a safe environment, personnel training and usage authorization, regular inspection and maintenance, manual availability and comprehension, application of safety devices, integrity of cutting tools or accessories, and the usage of approved personal protective equipment by all operators and bystanders.

The manufacturer of this machinery or equipment will not be held liable for injury or property damage from negligence, improper training, machine modifications, or misuse. Failure to read, understand, and follow the manual and safety labels may result in serious personal injury, including amputation, broken bones, electrocution, or death.

The signals used in this manual to identify hazard levels are defined as follows:



Death or catastrophic harm WILL occur.



Moderate injury or fire MAY occur.



Death or catastrophic harm COULD occur.



Machine or property damage may occur.

Basic Machine Safety

- 1. Owner's Manual:** All machinery and machining equipment presents serious injury hazards to untrained users. To reduce the risk of injury, anyone who uses THIS item MUST read and understand this entire manual before starting.
- 2. Personal Protective Equipment:** Operating or servicing this item may expose the user to flying debris, dust, smoke, dangerous chemicals, or loud noises. These hazards can result in eye injury, blindness, long-term respiratory damage, poisoning, cancer, reproductive harm or hearing loss. Reduce your risks from these hazards by wearing approved eye protection, respirator, gloves, or hearing protection.
- 3. Trained/Supervised Operators Only:** Untrained users can seriously injure themselves or bystanders. Only allow trained and properly supervised personnel to operate this item. Make sure safe operation instructions are clearly understood. If electrically powered, use padlocks and master switches, and remove start switch keys to prevent unauthorized use or accidental starting.
- 4. Guards/Covers:** Accidental contact with moving parts during operation may cause severe entanglement, impact, cutting, or crushing injuries. Reduce this risk by keeping any included guards/covers/doors installed, fully functional, and positioned for maximum protection.

- 5. Entanglement:** Loose clothing, gloves, neckties, jewelry or long hair may get caught in moving parts, causing entanglement, amputation, crushing, or strangulation. Reduce this risk by removing/securing these items so they cannot contact moving parts.
- 6. Mental Alertness:** Operating this item with reduced mental alertness increases the risk of accidental injury. Do not let a temporary influence or distraction lead to a permanent disability! Never operate when under the influence of drugs/alcohol, when tired, or otherwise distracted.
- 7. Safe Environment:** Operating electrically powered equipment in a wet environment may result in electrocution; operating near highly flammable materials may result in a fire or explosion. Only operate this item in a dry location that is free from flammable materials.
- 8. Electrical Connection:** With electrically powered equipment, improper connections to the power source may result in electrocution or fire. Always adhere to all electrical requirements and applicable codes when connecting to the power source. Have all work inspected by a qualified electrician to minimize risk.
- 9. Disconnect Power:** Adjusting or servicing electrically powered equipment while it is connected to the power source greatly increases the risk of injury from accidental startup. Always disconnect power **BEFORE** any service or adjustments, including changing blades or other tooling.
- 10. Secure Workpiece/Tooling:** Loose workpieces, cutting tools, or rotating spindles can become dangerous projectiles if not secured or if they hit another object during operation. Reduce the risk of this hazard by verifying that all fastening devices are properly secured and items attached to spindles have enough clearance to safely rotate.
- 11. Chuck Keys or Adjusting Tools:** Tools used to adjust spindles, chucks, or any moving/rotating parts will become dangerous projectiles if left in place when the machine is started. Reduce this risk by developing the habit of always removing these tools immediately after using them.
- 12. Work Area:** Clutter and dark shadows increase the risks of accidental injury. Only operate this item in a clean, non-glaring, and well-lighted work area.
- 13. Properly Functioning Equipment:** Poorly maintained, damaged, or malfunctioning equipment has higher risks of causing serious personal injury compared to those that are properly maintained. To reduce this risk, always maintain this item to the highest standards and promptly repair/service a damaged or malfunctioning component. Always follow the maintenance instructions included in this documentation.
- 14. Unattended Operation:** Electrically powered equipment that is left unattended while running cannot be controlled and is dangerous to bystanders. Always turn the power **OFF** before walking away.
- 15. Health Hazards:** Certain cutting fluids and lubricants, or dust/smoke created when cutting, may contain chemicals known to the State of California to cause cancer, respiratory problems, birth defects, or other reproductive harm. Minimize exposure to these chemicals by wearing approved personal protective equipment and operating in a well ventilated area.
- 16. Difficult Operations:** Attempting difficult operations with which you are unfamiliar increases the risk of injury. If you experience difficulties performing the intended operation, **STOP!** Seek an alternative method to accomplish the same task, ask a qualified expert how the operation should be performed, or contact our Technical Support for assistance.

Additional Metal Bandsaw Safety

- 1. Blade Condition.** A dull or damaged blade can break apart during operation, increasing the risk of operator injury. Do not operate with a dull, cracked or badly worn blade. Inspect the blade for cracks or missing teeth before each use.
- 2. Hand Placement.** Hands could be cut by the blade or crushed when lowering the headstock. Never position fingers or thumbs in line with the cut or under the headstock while it is moving.
- 3. Blade Guard.** Hands and fingers can easily be cut by the bandsaw blade. To reduce the risk of laceration injuries, do not operate this bandsaw without the blade guard in place.
- 4. Starting Position.** To reduce the likelihood of blade breakage and possible entanglement, never turn the saw **ON** with the blade resting on the workpiece.
- 5. Blade Replacement.** The blade can only make a safe and efficient cut if the teeth are facing the workpiece. When replacing blades, make sure the teeth face toward the workpiece. Wear gloves to protect hands and safety glasses to protect eyes.
- 6. Workpiece Handling.** A shifting workpiece can result in impact or laceration injuries. To reduce the risk of injury, always securely clamp the workpiece in the vise and use additional support fixtures if needed. Never hold the workpiece with your hands during a cut. Flag long pieces to reduce the risk of tripping over them.
- 7. Power Interruption.** Unplug the machine and turn the power switch **OFF** after a power interruption. If left plugged in and turned **ON**, this machine will start up when power is restored, resulting in possible entanglement, laceration, or amputation hazards.
- 8. Hot Surfaces/Sharp Edges.** Due to the cutting process, a freshly cut workpiece, chips, and some machine components can be hot enough to burn you and sharp enough to cut you. Allow components to cool and use safe handling methods to reduce the risk of these injuries.
- 9. Moving Blade.** A moving bandsaw blade presents a serious risk for laceration or amputation injuries. Always allow the blade to come to a complete stop before mounting or repositioning a workpiece in the vise. Never touch a moving blade.

Preparation Overview

The purpose of the preparation section is to help you prepare your machine for operation. The list below outlines the basic process to follow to prepare your machine for operation. Specific steps for each of these points will be covered in detail later in this section.

The typical preparation process is as follows:

1. Unpack the machine and inventory the contents of the carton.
2. Clean the machine and its components.
3. Make any necessary adjustments or inspections to ensure the machine is ready for operation.
4. Connect the machine to the power source.
5. Test run the machine to make sure it functions properly and is ready for operation.

Things You'll Need

The items listed below are required to successfully set up and prepare this machine for operation.

For Machine Setup

- Wrench 12mm
- Wrench 14mm

For Power Connection

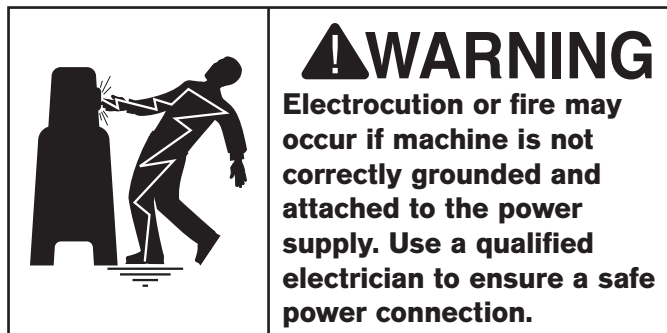
- A power source that meets the minimum circuit requirements for this machine. (Refer to the **Power Supply Requirements** section for details.)
- A qualified electrician to ensure a safe and code-compliant connection to the power source.

Power Supply Requirements

Availability

Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed.

To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by a qualified electrician in accordance with all applicable codes and standards.



Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Rating at 110V 8.6 Amps
Full-Load Rating at 220V 4.3 Amps

The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result—especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the requirements in the following section.

Circuit Information

A power supply circuit includes all electrical equipment between the main breaker box or fuse panel in your building and the incoming power connections inside the machine. This circuit must be safely sized to handle the full-load current that may be drawn from the machine for an extended period of time.

⚠ CAUTION

For your own safety and protection of property, consult a qualified electrician if you are unsure about wiring practices or electrical codes in your area.

Note: The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult a qualified electrician to ensure that the circuit is properly sized for safe operation.

Circuit Requirements for 110V

This machine is prewired to operate on a 110V power supply circuit that has a verified ground and meets the following requirements:

- Nominal Voltage 110V/120V
- Cycle 60 Hz
- Phase Single-Phase
- Circuit Rating..... 15 Amps
- Plug/Receptacle (included) NEMA 5-15

Circuit Requirements for 220V

This machine can be converted to operate on a 220V power supply. To do this, follow the **Voltage Conversion** instructions included in this manual. The intended 220V circuit must have a verified ground and meet the following requirements:

- Nominal Voltage 220V/240V
- Cycle 60 Hz
- Phase Single-Phase
- Circuit Rating..... 15 Amps
- Plug/Receptacle NEMA 6-15

Grounding Requirements

In the event of certain types of malfunctions or breakdowns, grounding provides a path of least resistance for electric current—in order to reduce the risk of electric shock.

For 110V Connection (Prewired)

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug (similar to the figure below). The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances.

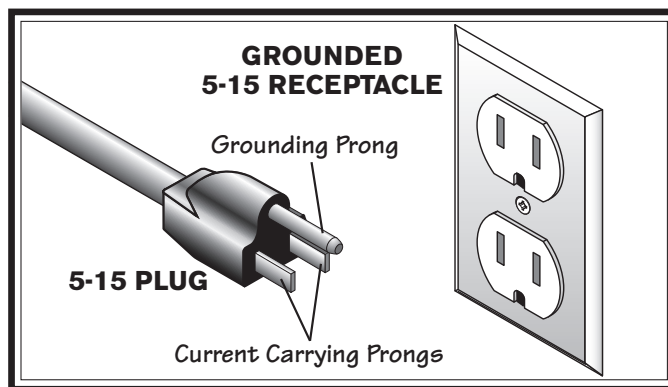


Figure 2. NEMA 5-15 plug and receptacle.

For 220V Connection

Use the plug type listed in the **Circuit Requirements** for this voltage. The listed plug (similar to the figure below) has an equipment-grounding wire to safely ground the machine. The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances.

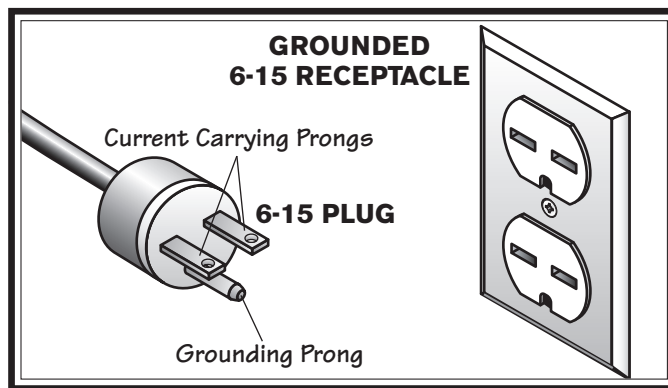


Figure 3. NEMA 6-15 plug and receptacle.

⚠ WARNING

Serious injury could occur if you connect the machine to power before completing the setup process. DO NOT connect to power until instructed later in this manual.

Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded.

If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

Extension Cords

We do not recommend using an extension cord with this machine. If you must use one, only use it if absolutely necessary and only on a temporary basis.

Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle listed in the **Circuit Requirements** for the applicable voltage, and meet the following requirements:

- Minimum Gauge Size.....16 AWG**
- Maximum Length (Shorter is Better)50 ft.**

Unpacking

This item was carefully packaged to prevent damage during transport. If you discover any damage, please immediately call Customer Service at (360) 734-1540 for advice. You may need to file a freight claim, so save the containers and all packing materials for possible inspection by the carrier or its agent.

Inventory

| Description (Figure 4) | Qty |
|---------------------------|-----|
| A. Handle | 1 |
| B. Axle | 1 |
| C. Wheels | 2 |
| D. Leveling Feet..... | 2 |
| E. Handwheel | 1 |
| F. Handwheel Handle | 1 |
| G. Pulley Cover | 1 |
| H. V-Belt..... | 1 |

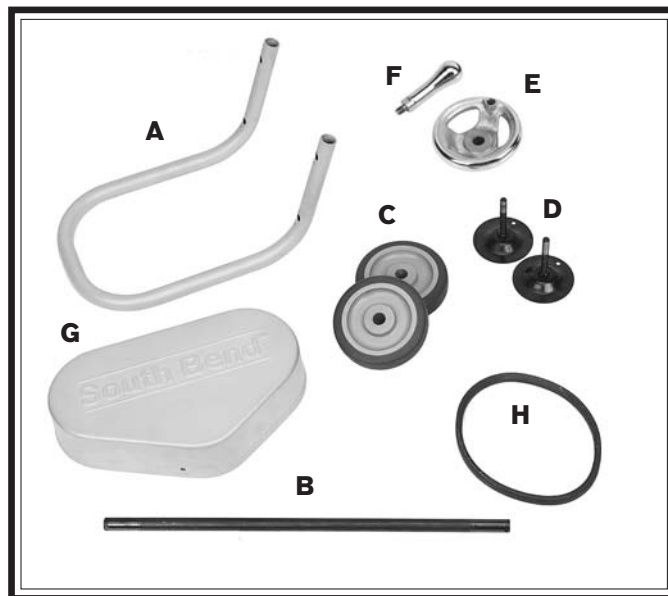


Figure 4. Small components.

| Description (Figure 5) | Qty |
|------------------------|-----|
| I. Chip Tray..... | 1 |
| J. Rear Panel..... | 1 |
| K. Front Panel..... | 1 |

| Not Shown | Qty |
|---------------------------------------|-----|
| • Hex Wrench 4mm | 1 |
| • Hex Bolt M8-1.25 x 15 | 12 |
| • Hex Nut M8-1.25..... | 18 |
| • Flat Washer 8mm | 30 |
| • Flat Head Screws M8-1.25 x 15 | 2 |
| • Hex Bolt M12-1.75 x 25 | 4 |
| • Flat Washer 12mm | 4 |
| • Hex Bolt M8-1.25 x 40 | 4 |
| • Knob M6-1 x 15 | 1 |
| • Cotter Pins | 2 |

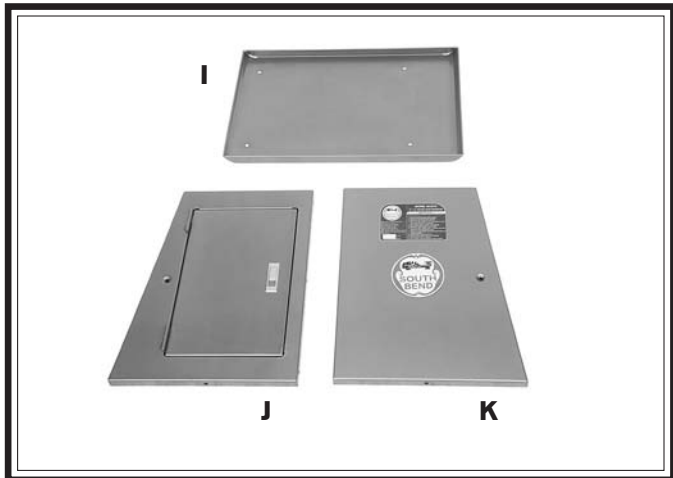


Figure 5. Stand components.

The items listed below are optional components and are not required for bandsaw operations. Their installation and use is covered in **Operation**, beginning on **Page 20**.

| Description (Figure 6) | Qty |
|------------------------|-----|
| L. Left Panel | 1 |
| M. Right Panel..... | 1 |
| N. Bottom Shelf..... | 1 |
| O. Shelf..... | 1 |

| Description | Qty |
|-----------------------------|-----|
| P. Work Stop Assembly | 1 |
| Q. Chip Deflector | 1 |

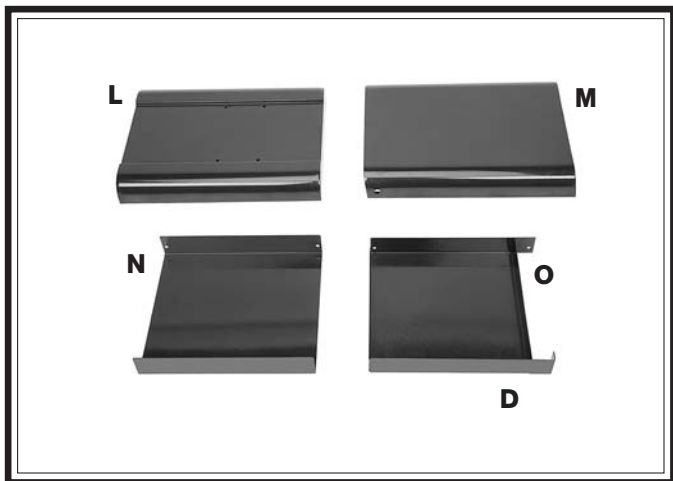


Figure 6. Additional stand components.

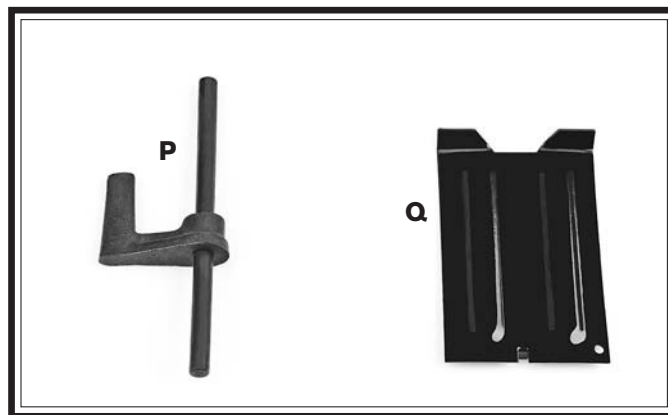


Figure 7. Optional components.

Cleaning & Protecting

The unpainted surfaces are coated at the factory with a heavy-duty rust preventative that prevents corrosion during shipment and storage. The benefit of this rust preventative is that it works very well. The downside is that it can be time-consuming to thoroughly remove.

Be patient and do a careful job when cleaning and removing the rust preventative. The time you spend doing this will reward you with smooth-sliding parts and a better appreciation for the proper care of the unpainted surfaces.

Although there are many ways to successfully remove the rust preventative, we have cleaned thousands of machines and found the following process to be the best balance between efficiency and minimized exposure to toxic fumes or chemicals.

Before cleaning, gather the following:

- Disposable rags
- Cleaner/degreaser (certain citrus-based degreasers work extremely well and they have non-toxic fumes)
- Safety glasses & disposable gloves

Note: Automotive degreasers, mineral spirits, or WD•40 can be used to remove rust preventative. Before using these products, though, test them on an inconspicuous area of a painted area to make sure they will not damage it.



WARNING

Gasoline and petroleum products have low flash points and can explode or cause fire if used for cleaning. Avoid using these products to remove rust preventative.



CAUTION

Many cleaning solvents are toxic if inhaled. Minimize your risk by only using these products in a well ventilated area.

NOTICE

Avoid chlorine-based solvents, such as acetone or brake parts cleaner that may damage painted surfaces. Always follow the manufacturer's instructions when using any type of cleaning product.

Basic steps for removing rust preventative:

1. Put on safety glasses and disposable gloves.
2. Coat all surfaces that have rust preventative with a liberal amount of your cleaner or degreaser and let them soak for a few minutes.
3. Wipe off the surfaces. If your cleaner or degreaser is effective, the rust preventative will wipe off easily.

Note: To clean off thick coats of rust preventative on flat surfaces, such as beds or tables, use a PLASTIC paint scraper to scrape off the majority of the coating before wiping it off with your rag. (Do not use a metal scraper or it may scratch the surface.)

4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant or light oil to prevent rust.

Location

Physical Environment

The physical environment where your machine is operated is important for safe operation and longevity of parts. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous or flammable chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature is outside the range of 41°–104°F; the relative humidity is outside the range of 20–95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave access to a means of disconnecting the power source or engaging a lockout/tagout device.

Lighting

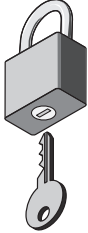
Lighting around the machine must be adequate enough that operations can be performed safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

Weight Load

Refer to the **Machine Specifications** for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual.

| | |
|---|---|
|  | <p>⚠ CAUTION Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.</p> |
|---|---|

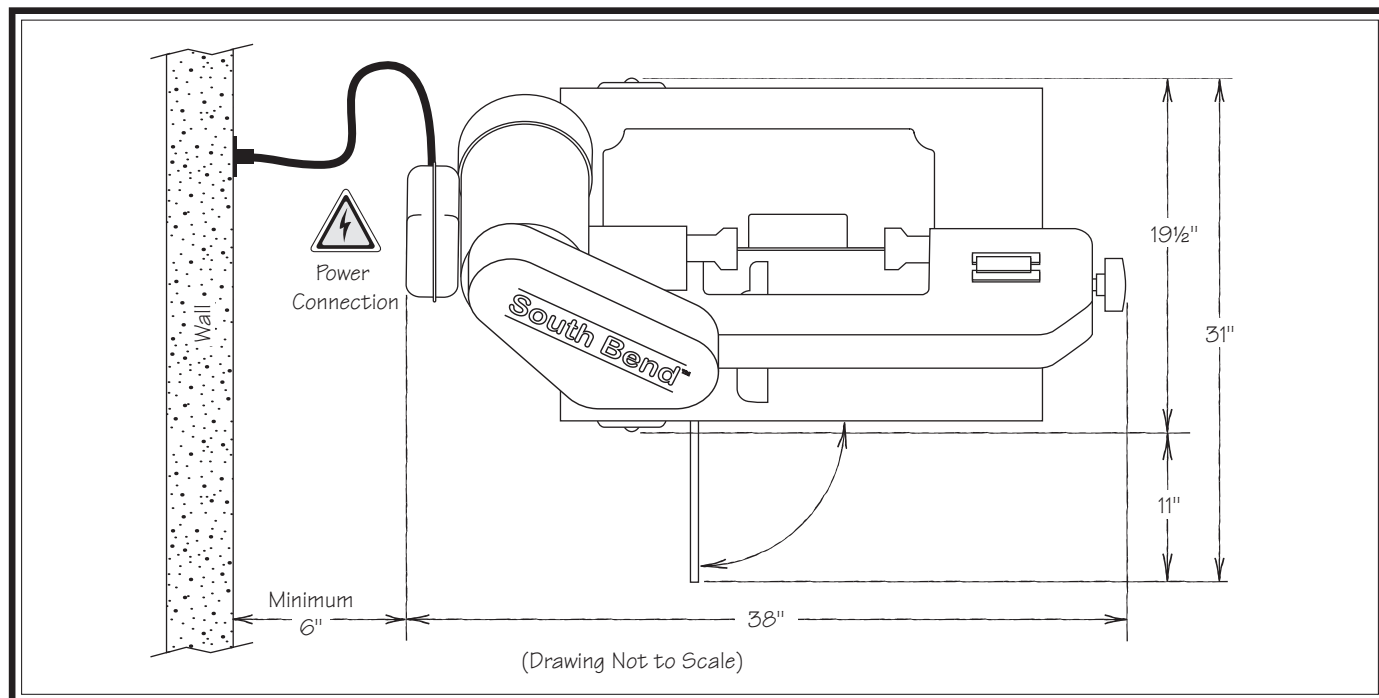


Figure 8. Clearances.

Assembly

To assemble the bandsaw:

1. Attach the left and rear panels and the bottom shelf together as shown in **Figure 9** with three M8-1.25 x 15 hex bolts, three M8-1.25 hex nuts, and six 8mm flat washers.

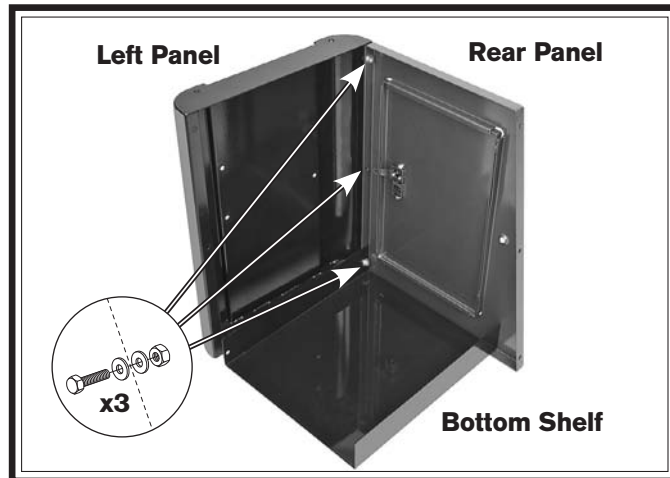


Figure 9. Left and rear panel assembly.

2. Attach the front panel in the same manner as **Step 1**.
3. Attach the right panel to the stand assembly as shown in **Figure 10** with four M8-1.25 x 15 hex bolts, four M8-1.25 hex nuts, and eight 8mm flat washers.

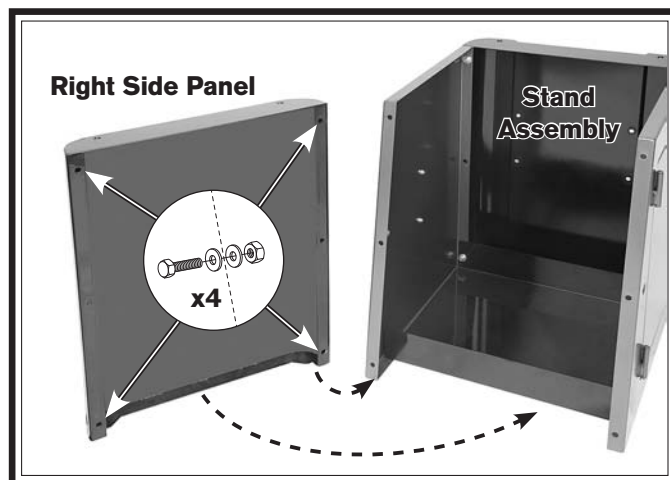


Figure 10. Right panel assembly.

4. Install the shelf in the stand assembly as shown in **Figure 11** with (2) M8-1.25 x 15 hex bolts, (2) M8-1.25 x 15 flat head screws, (4) M8-1.25 hex nuts, and (6) 8mm flat washers.

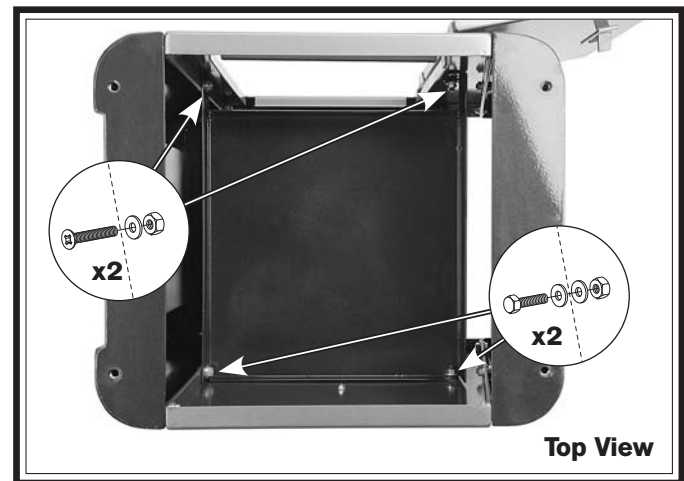


Figure 11. Shelf installation.

5. Install the handle with four M8-1.25 x 40 hex bolts, eight 8mm flat washers and four M8-1.25 hex nuts as shown in **Figure 10**.

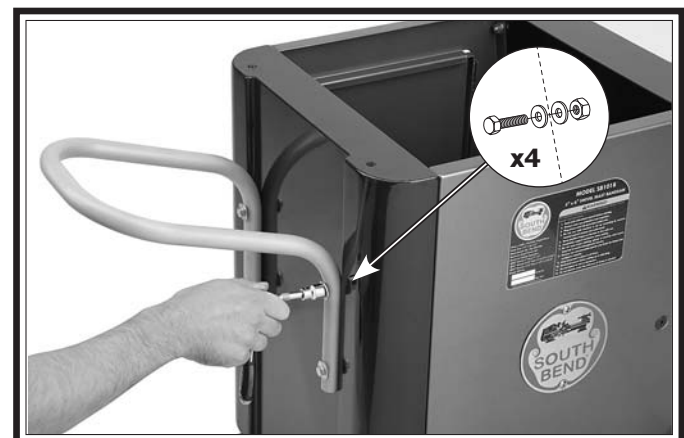


Figure 12. Handle installation.

6. Carefully place the stand assembly upside down.

7. Insert the axle through the holes in the base assembly, then slide the wheels over the axle and secure each with a cotter pin, as shown in **Figure 13**.

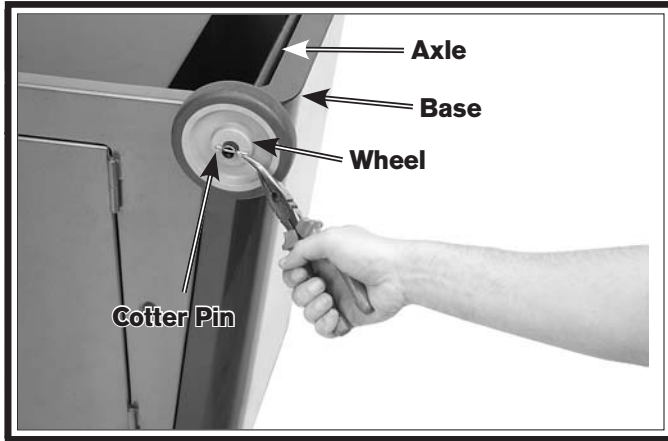


Figure 13. Wheel assembly.

8. Thread the leveling feet into the stand assembly, as shown in **Figure 14**. You can adjust these later as needed to level the bandsaw.



Figure 14. Leveling feet.

9. With the help of another person, flip the stand assembly right-side up, then place the chip tray onto the stand, lining up the mounting holes.

10. With the help of another person, lift the bandsaw assembly and place it onto the stand assembly, lining up the mounting holes.

11. Secure the bandsaw to the stand with four M12-1.75 x 25 hex bolts and 12mm flat washers, as shown in **Figure 15**.

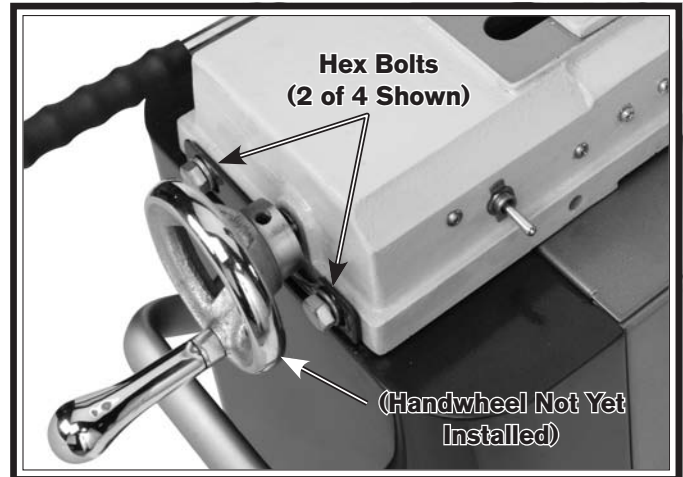


Figure 15. Mounting bandsaw to stand.

12. Loosen the belt tension bolt shown in **Figure 16**.

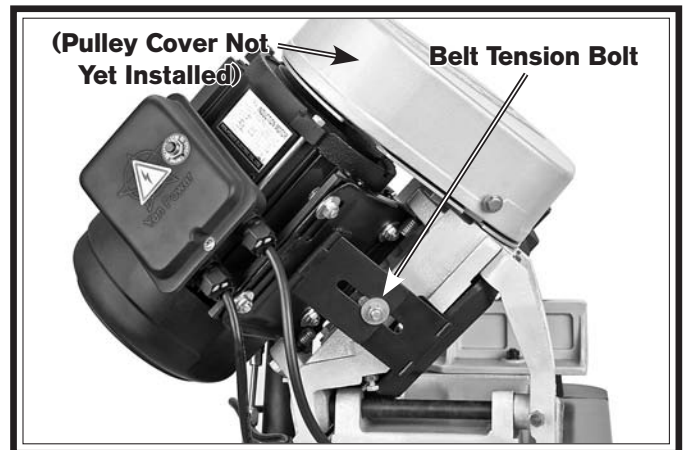


Figure 16. Belt tension bolt location.

13. Pivot the motor assembly upward, then place the belt over the gearbox and motor pulleys, as shown in **Figure 17**.

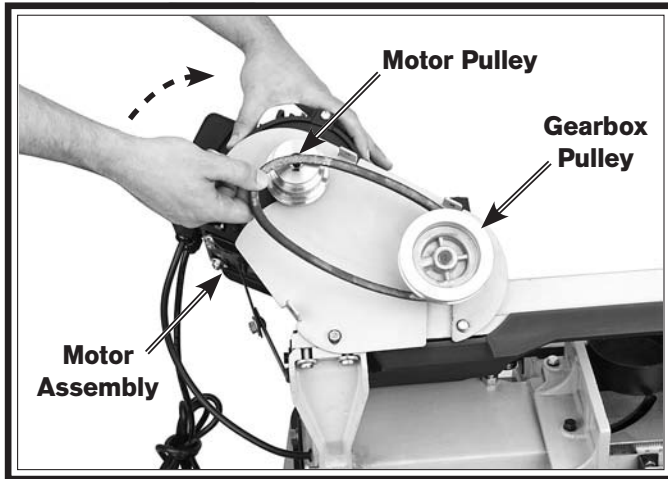


Figure 17. Installing belt.

14. Install the pulley cover (**Figure 18**) with two M6-1 x 12 hex bolts, three 6mm flat washers, and the South Bend cast aluminum knob (see **Figure 19**).

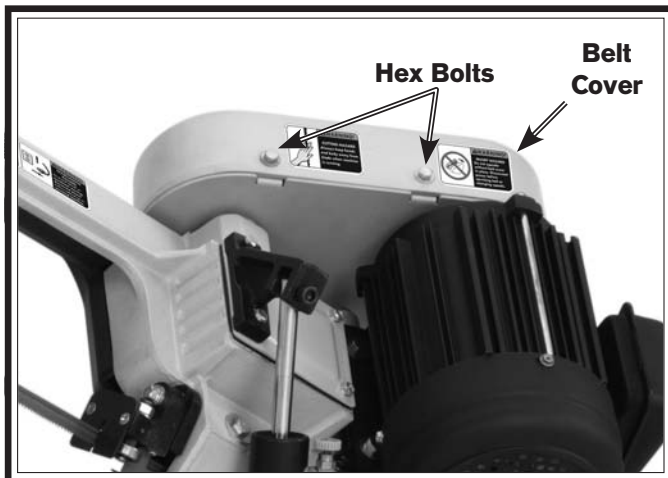


Figure 18. Pulley cover.



Figure 19. Pulley cover knob.

15. Slide the vise handwheel onto the leadscrew and tighten the set screw shown in **Figure 20**. Thread the handle into the handwheel and tighten it.

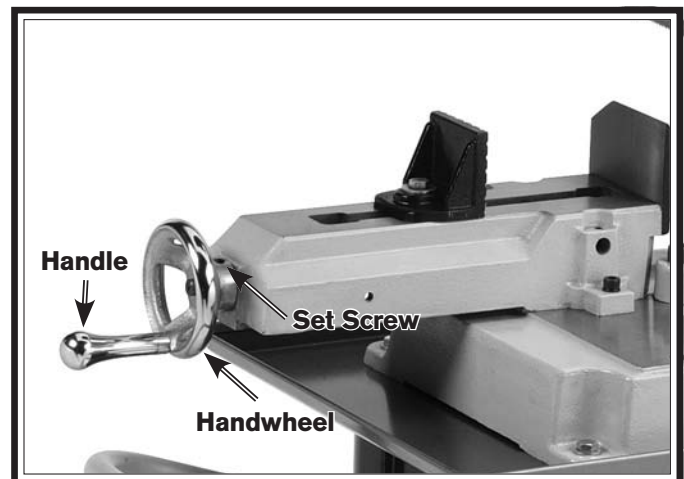


Figure 20. Vise handwheel.

16. Remove the shipping strap hex bolt and strap with a 12mm wrench, as shown in **Figure 21**. Re-install the fasteners. Save this strap in case you need to transport or ship the bandsaw in the future.



Figure 21. Removing shipping strap.

17. If you choose to use the deflector, position it as shown in **Figure 22** (the deflector directs swarf from the cut and small workpieces into the chip tray when the cut is complete).

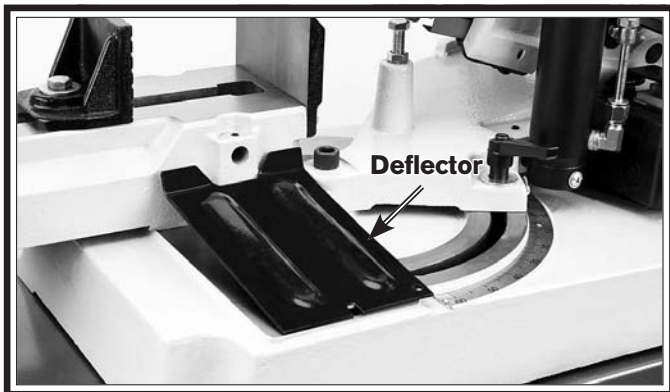


Figure 22. Chip tray installed.

Power Connection

| | |
|--|--|
| | <p>!WARNING Electrocution or fire may occur if machine is ungrounded, incorrectly connected to power, or connected to an undersized circuit. Use a qualified electrician to ensure a safe power connection.</p> |
|--|--|

Once your machine is set up and assembled as previously described in this manual, it is ready to be connected to the power source.

- If you plan to use the machine at 110V, simply plug it into a receptacle on a 110V circuit that meets the requirements listed on **Page 10**.
- If you plan to use the machine at 220V, you will have to convert the machine for 220V. Refer to **Electrical**, beginning on **Page 41**.

Test Run

After all preparation steps have been completed, the machine and its safety features must be tested to ensure correct operation. If you discover a problem with the operation of the machine or its safety components, do not operate it further until you have resolved the problem.

Note: Refer to **Troubleshooting** on **Page 38** for solutions to common problems that may occur with metal-cutting bandsaws. If you need additional help, contact our Tech Support at (360) 734-1540.

To test run your machine:

1. Read and follow the safety instructions at the beginning of the manual, take the required safety precautions, and make sure the machine is set up properly.
2. Clear away all tools and objects used during assembly and preparation.
3. Open the downfeed valve (**Figure 23**) and allow the headstock to travel all the way down. If the blade contacts the machine base, adjust the downfeed stop bolt as described in **Downfeed Stop Bolt**, on **Page 37**.

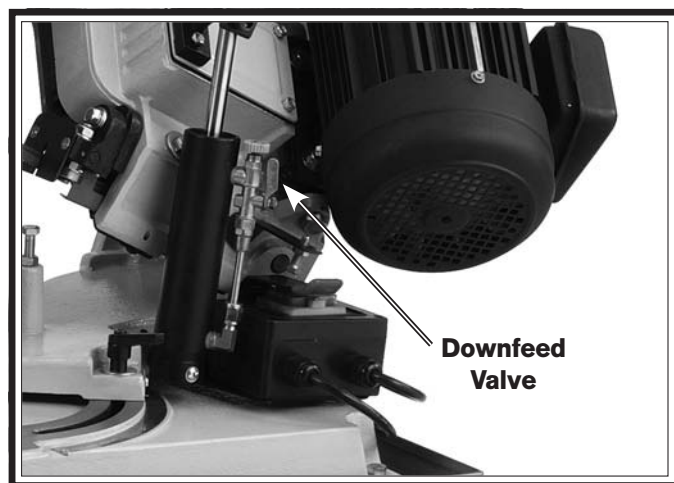


Figure 23. Downfeed valve location.

4. Connect the machine to the power source.
5. Put on safety glasses and secure loose clothing or long hair.
6. Lift the headstock by the handle to the raised position, then close the downfeed valve to prevent it from lowering.
7. Start the bandsaw while keeping your finger near the ON/OFF switch at all times during the test run. The bandsaw should run smoothly with little or no vibration.
 - If you suspect any problems, immediately turn the bandsaw **OFF**, disconnect it from power, and correct the problem before continuing.
 - If you need any help with your bandsaw call our Tech Support at (360) 734-1540.
8. Open the downfeed valve to lower the saw through its full range of motion. When it reaches the bottom of its travel, it should turn **OFF**. If it does not, manually turn it **OFF**, disconnect it from power, then re-adjust the auto-OFF lever, by performing **Steps 3–6** on **Page 37**.

Inspections & Adjustments

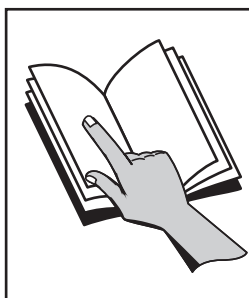
The following list of adjustments were performed at the factory before your machine was shipped. If you find that the adjustments are not set according to the procedures in this manual or your personal preferences, re-adjust them.

- Blade TrackingPage 34
- Squaring the BladePage 35
- Blade Guide BearingsPage 35

Operation Overview

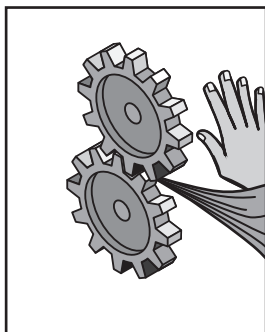
The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so they can more easily understand the controls discussed later in this manual.

Note: Due to the generic nature of this overview, it is not intended to be an instructional guide for performing actual machine operations. To learn more about specific operations and machining techniques, seek training from people experienced with this type of machine, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.



!WARNING

To reduce the risk of serious injury when using this machine, read and understand this entire manual before beginning any operations.



!WARNING

Loose hair, clothing, or jewelry could get caught in machinery and cause serious personal injury. Keep these items away from moving parts at all times to reduce this risk.



!WARNING

During operation, small metal chips may become airborne, leading to serious eye injury. Wear safety glasses to reduce this risk.

To complete a typical cutting operation, the operator does the following:

1. Examines the workpiece to make sure it is suitable for cutting.
2. Checks/adjusts the V-belt position on the pulleys to ensure the correct cutting speed for the workpiece.
3. Raises the headstock, then closes the downfeed valve.
4. Adjusts the headstock angle for the type of cut, then securely clamps the workpiece in the vise.
5. Adjusts the guide post so the opening between the two blade guides is approximately $\frac{1}{4}$ " larger than the width of the workpiece.
6. Adjusts the downfeed rate adjust knob for the correct feed rate.
7. Makes sure the workpiece and bandsaw are stable and that there are no obstructions in the way of the cut.
8. Puts on safety glasses.
9. Starts the bandsaw and waits for the blade to reach full speed.
10. Opens the downfeed valve to lower the head and blade into the workpiece, then allows the bandsaw to complete the cut.
11. Once the bandsaw has stopped, raises the head, and removes the workpieces.

Description of Controls & Components

Refer to **Figure 24** and the following descriptions to become familiar with the basic controls and components used to operate this machine.

- A. Blade Tension Knob:** Adjusts the position of the upper blade wheel to increase/decrease blade tension.
- B. Guide Post Knob:** Locks the guide post in the position set by the operator.
- C. Downfeed Rate Adjust Knob:** Controls the speed at which the blade lowers into the workpiece.
- D. Downfeed Valve:** Controls the starting and stopping of the headstock downfeed.
- E. ON/OFF Switch & Auto-Off Lever:** Turns the saw motor *ON* and *OFF*.
- F. Swivel Lock Handle:** Locks the headstock at the position set by the operator.
- G. Vise Jaw Handwheel:** Controls the vise jaw movement.
- H. Downfeed Stop Bolt:** Adjusts to determine the absolute bottom limit of blade travel.
- I. Fence Scale:** Indicates the angle of the vise fence.

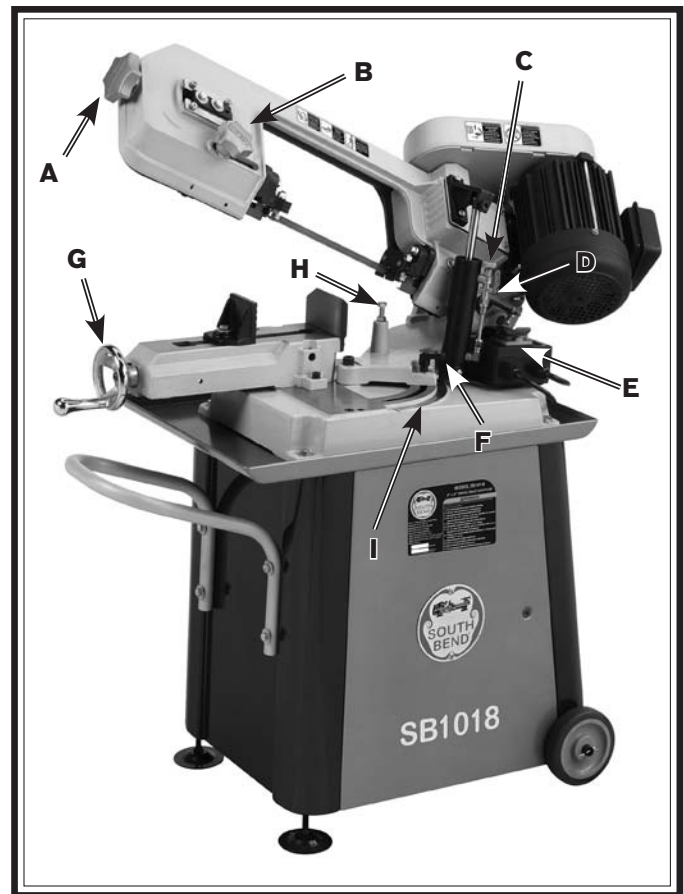


Figure 24. Front Identification.

Blade Selection

Selecting the right blade for the cut requires a knowledge of various blade characteristics. This section breaks down blade characteristics to help the reader make an informed decision about what blade to use for a given operation.

Blade Terminology

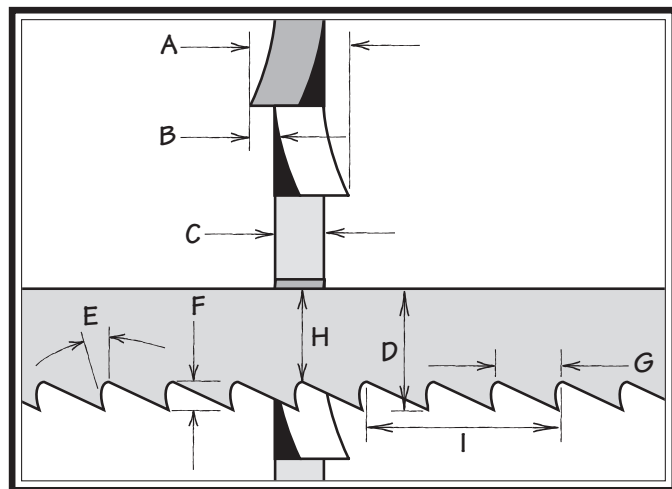


Figure 25. Bandsaw blade terminology.

- A. **Kerf:** The width of the cut made during operation.
- B. **Tooth Set:** The distance each tooth is bent left or right from the blade.
- C. **Gauge:** The thickness of the blade.
- D. **Blade Width:** The widest point of the blade measured from the tip of the tooth to the back edge of the blade.

- E. **Tooth Rake:** The angle of the tooth face from a line perpendicular to the length of the blade.
- F. **Gullet Depth:** The distance from the tooth tip to the bottom of the curved area (gullet).
- G. **Tooth Pitch:** The distance between tooth tips.
- H. **Blade Back:** The distance between the bottom of the gullet and the back edge of the blade.
- I. **Blade Pitch or TPI:** The number of teeth per inch measured from gullet to gullet.

Blade Length

Measured by the blade circumference, blade lengths are usually unique to the brand of your bandsaw and the distance between the wheels.

| Model | Blade Length |
|-------------|--------------|
| SB1018..... | 64½" |

Blade Width

Measured from the back of the blade to the tip of the blade tooth (the widest point), blade width is often the first consideration given to blade selection. Blade width dictates the largest and smallest curve that can be cut, as well as how accurately it can cut a straight line—generally the wider the blade, the straighter it will cut.

| Model | Blade Width |
|-------------|-------------|
| SB1018..... | 1½" |

Tooth Set

Three common tooth sets are alternate, wavy, and raker (see **Figure 26**). Each removes material in a different manner to make the kerf in the workpiece.

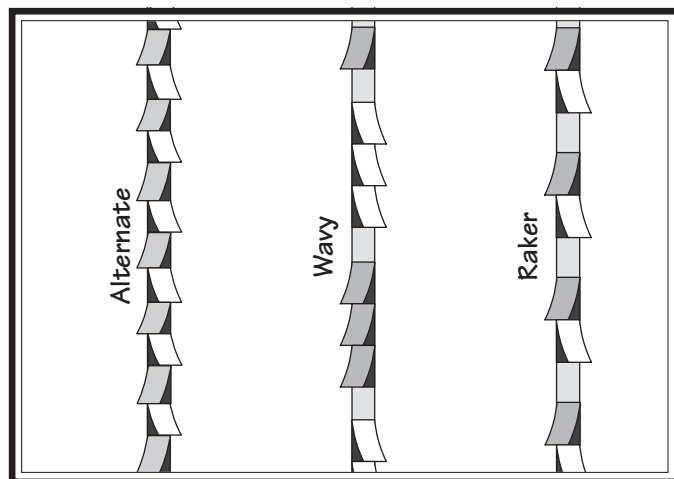


Figure 26. Bandsaw blade tooth sets.

Alternate: An all-purpose arrangement with teeth bent evenly left and right of the blade. Generally used for milder metals.

Wavy: Generally three or more teeth in a group that are bent one way, followed by a non-set tooth, and then a group bent the other way. Recommended for straight cuts in thin metals or thin-wall tubing.

Raker: Three teeth in a recurring group—one bent left, next one bent right, and then a non-set tooth. The raker set is ideal for most contour cuts.

Tooth Type

The most common tooth types are described below and illustrated in **Figure 27**. Each removes, gathers, and expels material differently.

Standard or Raker: Equally spaced teeth set at a "0" rake angle. Recommended for all purpose use.

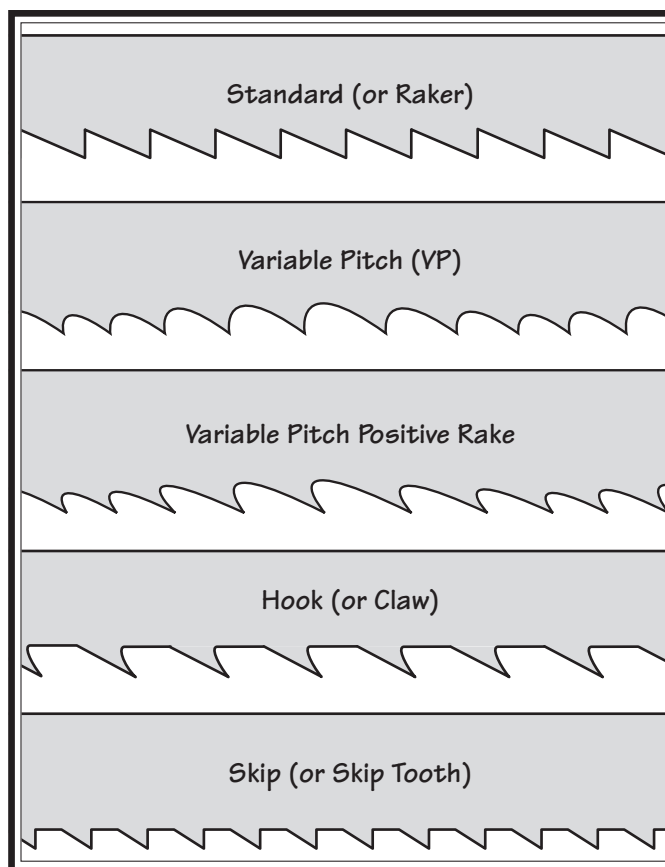


Figure 27. Bandsaw blade tooth types.

Variable Pitch (VP): Varying gullet depth and tooth spacing, a "0" rake angle, excellent chip removing capacity, and smooth cutting.

Variable Pitch with Positive Rake: Varying gullet depth and tooth spacing, a positive rake angle, better chip formation, and aggressive cutting.

Hook or Claw: Wide gullets (round or flat), equally spaced teeth, positive rake angle, and fast cut with good surface finish.

Skip or Skip Tooth: Wide, flat gullets, a "0" rake angle, equally spaced teeth, and recommended for non-ferrous materials.

Blade Pitch (TPI)

The chart below is a basic starting point for choosing teeth per inch (TPI) for variable pitch blades and standard raker set bi-metal blades/HSS blades. However, for exact specifications of bandsaw blades that are correct for your operation, contact the blade manufacturer.

To select the correct blade pitch:

1. Measure the material thickness. This measurement is the distance from where each tooth enters the workpiece to where it exits the workpiece.

2. Refer to the "Material Width/Diameter" row of the blade selection chart in **Figure 28**, and read across to find the workpiece thickness you need to cut.
3. Refer to the "Material Shapes" row and find the shape of the material to be cut.
4. In the applicable row, read across to the right and find the box where the row and column intersect. Listed in the box is the minimum TPI recommended for the variable tooth pitch blades.

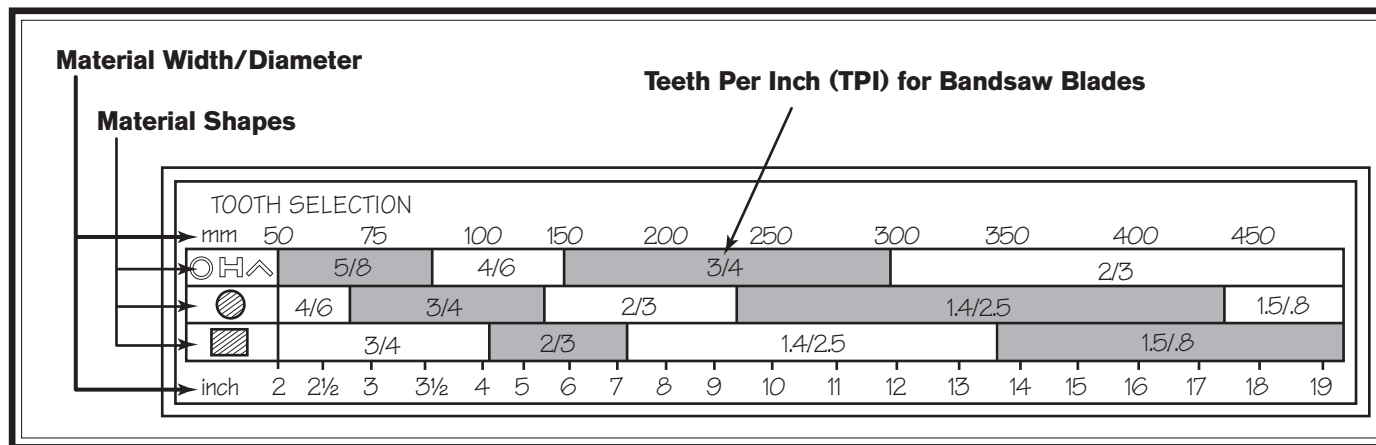


Figure 28. General guidelines for blade selection and speed chart.

Blade Changes

Change blades when they become dull, damaged, or if the operation requires a different type of blade.

To change the blade on the bandsaw:

1. DISCONNECT BANDSAW FROM POWER!
2. Raise the head of the bandsaw, then remove the wheel access cover.
3. Loosen the tension knob and slip the blade off of the wheels.
4. Install the new blade through both blade guide bearings, as shown in **Figure 29**, and around the bottom wheel.

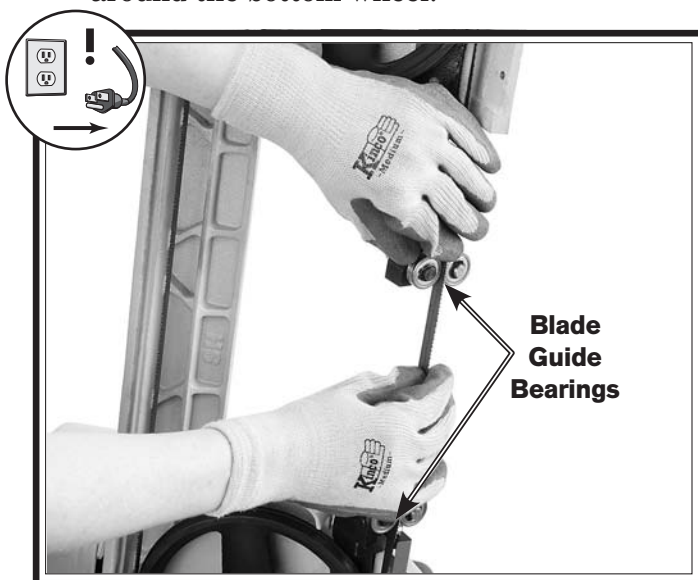


Figure 29. Installing blade.

5. Hold the blade around the bottom wheel with one hand and slip it around the top wheel with the other hand, keeping the blade between the blade guide bearings.

Note: It is sometimes possible to flip the blade inside out, in which case the blade will be installed in the wrong direction. Check to make sure the blade teeth are facing toward the workpiece, as shown in **Figure 30**, after installing it on the bandsaw. Some blades will have a directional arrow as a guide.

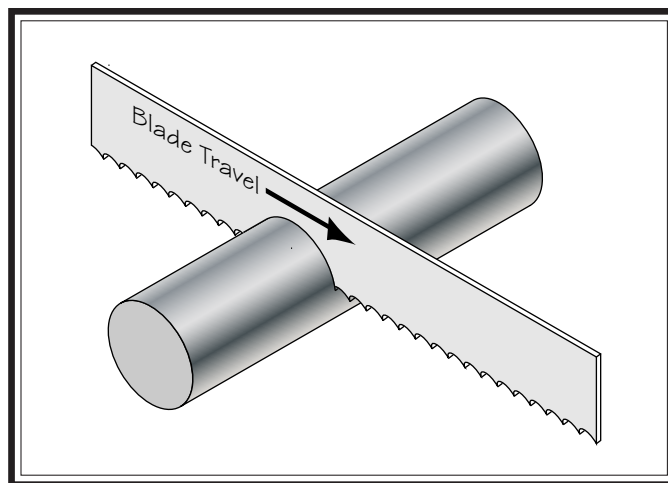


Figure 30. Blade cutting direction.

6. When the blade is around both wheels, adjust the position so the back of the blade is against the wheel shoulder, as shown in **Figure 31**.

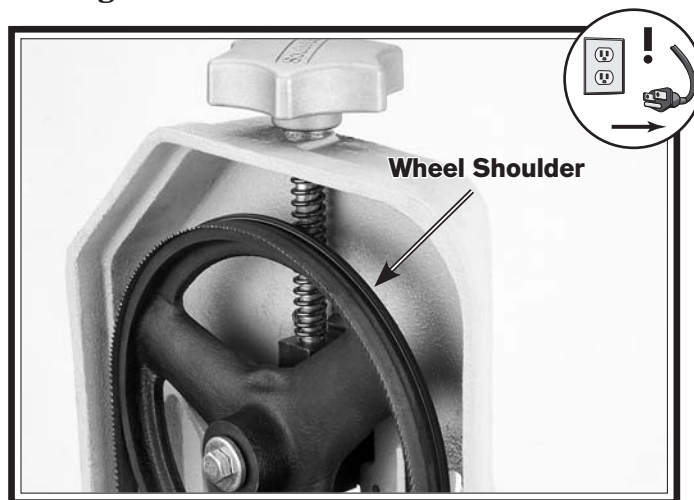


Figure 31. Installing blade around wheel.

7. Tighten the tension knob so the blade will not slip on the wheels upon startup.
8. Connect the bandsaw to the power source.
9. Briefly turn the bandsaw **ON** then **OFF** to position the blade and resume the previous tracking.
 - If the tracking needs to be adjusted, see **Blade Tracking on Page 34**.
 - If the tracking is fine, proceed to **Blade Tension on Page 26**.

Blade Tension

Proper tension is essential to avoid vibration, twist, or slippage on the wheels. A correctly tensioned blade provides long life, straight cuts, and efficient cutting.

The three major signs of incorrect tension are:

1) The blade stalls in the cut and slips on the wheels, 2) the blade frequently breaks, and 3) the cuts are not straight.

To tension the blade on the bandsaw:

1. Make sure the blade is tracking properly.
2. DISCONNECT BANDSAW FROM POWER!
3. Loosen and slide the blade guide as far out as it will go, then tighten it down again.
4. Turn the tension knob in **Figure 32** clockwise to tighten the blade or clockwise to loosen it.

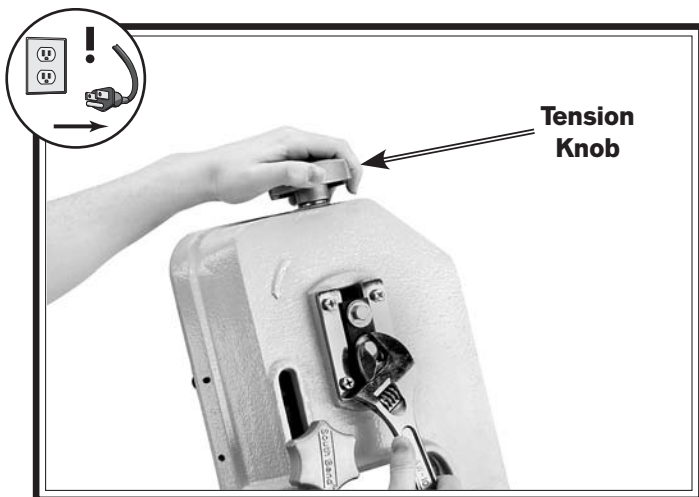


Figure 32. Adjusting blade tension.

5. Using moderate finger pressure, push against the side of the blade. If it flexes more than $\frac{1}{8}$ ", tighten the tension knob further, then repeat this step.

Blade Breakage

Many conditions may cause a bandsaw blade to break. Some of these conditions are unavoidable and are the natural result of the stresses placed on the bandsaw; other causes of blade breakage are avoidable.

The most common causes of avoidable blade breakage are:

- Faulty alignment or adjustment of the blade guides.
- Forcing or twisting a wide blade around a tight radius.
- Feeding the workpiece too fast.
- Dull or damaged teeth.
- Over-tensioned blade.
- Top blade guide assembly set too high above the workpiece. Adjust the top blade guide assembly so that there is less than $\frac{1}{2}$ " between the bottom of the assembly and the workpiece. Understand that with smaller workpieces, this may not be possible. In these cases, simply adjust the blade guide as far down as possible.
- Using a blade with a lumpy or improperly finished braze or weld.
- Continuously running the bandsaw when not in use.
- Leaving the blade tensioned when not in use.
- Using the wrong blade pitch (TPI) for the workpiece thickness. The general rule of thumb is to have no fewer than three teeth in contact with the workpiece during cutting operations.

Blade Care & Break-In Blade Speed

Blade Care

To prolong blade life, always use a blade with the proper width, set, type, and pitch for each application. Maintain the appropriate feed rate, feed pressure, and blade speed. Keep your blades clean, since dirty or gummed up blades pass through the cutting material with much more resistance than clean blades, causing unnecessary heat.

Blade Break-In

The tips and edges of a new blade are extremely sharp. Cutting at too fast of a feed rate or too slow of a blade speed can fracture these tips and edges, causing the blade to quickly become dull. Properly breaking-in a blade allows these sharp edges to wear without fracturing, thus keeping the blade sharp longer.

Use the **Chip Inspection Chart** on **Page 28** to ensure that the optimal blade speed and feed rate are being used.

To properly break-in a new blade:

1. Choose the correct speed for the blade and material of the operation.
2. Reduce the feed pressure by half for the first 50–100 in² of material cut.
3. To avoid twisting the blade when cutting, wait until the total width of the blade is in the cut before adjusting the feed pressure.

The bandsaw is capable of operating at 80, 120, or 200 FPM (Feet Per Minute). The speed can easily be adjusted by changing the V-belt placement. **Figure 33** shows the pulley positions required for each speed. The charts on the following page provide guidelines for determining which speed to use for a cutting operation

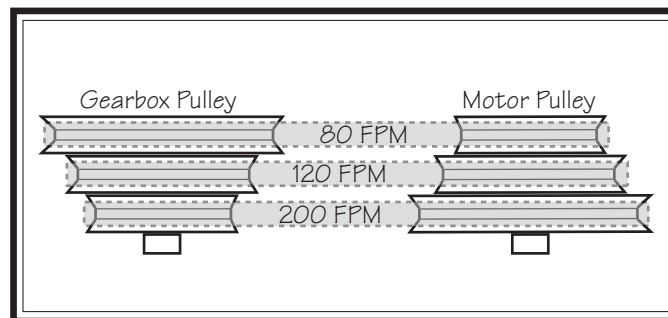


Figure 33. Pulley and V-belt configuration.

To change the

1. DISCONNECT BANDSAW FROM POWER!
2. Open the belt cover, then loosen the belt tension bolt shown in **Figure 34** to allow the motor to pivot.

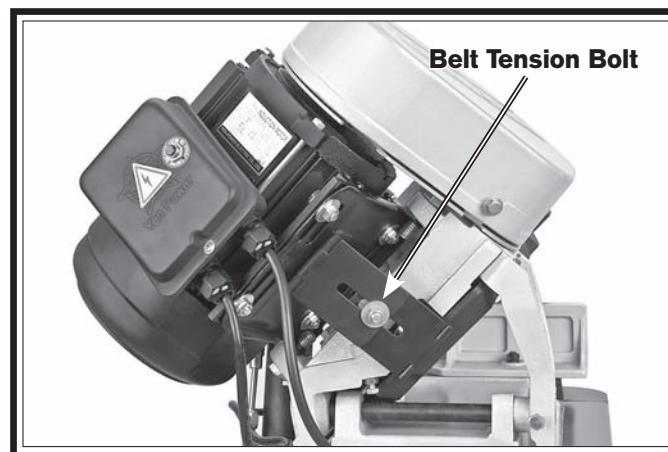


Figure 34. Motor tension bolt.

3. Lift the motor to relieve the belt tension and position the belt in the desired pulley alignment.
4. Release the motor and let its weight tension the belt.
5. Re-tighten the belt tension bolt and close the belt cover.

Blade Speed Chart

The chart in **Figure 35** offers blade speed guidelines for various metals, given in feet per minute (FPM) and meters per minute (M/Min). Choose the closest available speed on the machine, then adjust the feed rate as necessary, using the appearance of the chips produces as a guide. Refer to the **Chip Inspection Chart** that follows for recommendations on adjusting your operation based on the appearance of the chips produced.

| Material | Speed FPM (M/Min) | Material | Speed FPM (M/Min) | Material | Speed FPM (M/Min) | Material | Speed FPM (M/Min) |
|----------------|-----------------------|-------------------------|----------------------|---------------------------|----------------------|--------------------------------|----------------------|
| Carbon Steel | 196~354 (60) (108) | Tool Steel | 203 (62) | Alloy Steel | 111~321 (34) (98) | Free Machining Stainless Steel | 150~203 (46) (62) |
| Angle Steel | 180~220 (54) (67) | High-Speed Tool Steel | 75~118 (25) (36) | Mold Steel | 246 (75) | Gray Cast Iron | 108~225 (33) (75) |
| Thin Tube | 180~220 (54) (67) | Cold-Work Tool Steel | 95~213 (29) (65) | Water Hardened Tool Steel | 242 (75) | Ductile Austenitic Cast Iron | 65~85 (20) (26) |
| Aluminum Alloy | 220~534 (67) (163) | Hot-Work Tool Steel | 203 (62) | Stainless Steel | 85 (26) | Malleable Cast Iron | 321 (98) |
| Copper Alloy | 229~482 (70) (147) | Oil-Hardened Tool Steel | 203~213 (62) (65) | CR Stainless Steel | 85-203 (26) (62) | Plastics | 220 (67) |

Figure 35. Dry cutting blade speed chart.

Chip Inspection Chart

The best method for choosing the cutting speed and feed rate for a cutting operation is to inspect the chips created by the cut. These chips will be indicators of what is commonly referred to as the "chip load". Refer to the chip inspection chart below to evaluate chip characteristics and determine whether to adjust feed rate/pressure, blade speed, or both.








| Chip Appearance | Chip Description | Chip Color | Blade Speed | Feed Rate/ Pressure | Other Actions |
|---|------------------------------|-----------------------|-------------|---------------------|-------------------|
|  | Thin & Curled | Silver | Good | Good | |
|  | Hard, Thick & Short | Brown or Blue | Increase | Decrease | |
|  | Hard, Strong & Thick | Brown or Blue | Increase | Decrease | |
|  | Hard, Strong, Curled & Thick | Silver or Light Brown | Good | Decrease Slightly | Check Blade Pitch |
|  | Hard, Coiled & Thin | Silver | Increase | Decrease | Check Blade Pitch |
|  | Straight & Thin | Silver | Good | Increase | |
|  | Powdery | Silver | Decrease | Increase | |
|  | Coiled, Tight & Thin | Silver | Good | Decrease | Check Blade Pitch |

Figure 36. Chip inspection chart.

Downfeed Rate

The downfeed valve starts and stops headstock downfeed.

The downfeed rate is adjusted by turning the downfeed rate adjust knob (**Figure 37**). Turning the knob clockwise decreases the downfeed rate and turning the knob counterclockwise increases the downfeed rate.

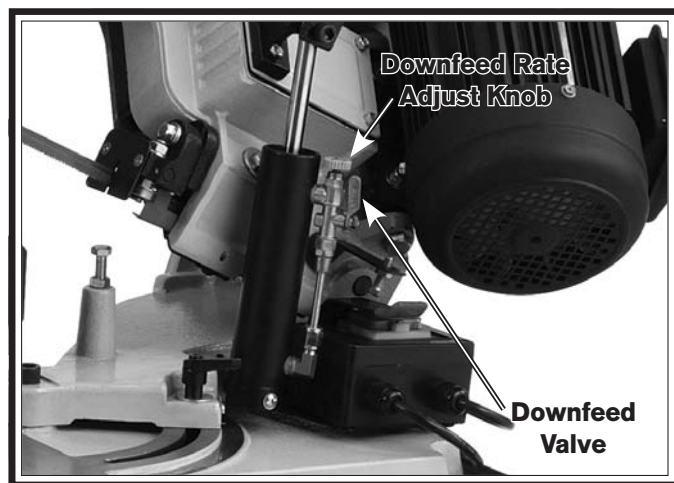


Figure 37. Downfeed rate controls.

During operation, pay attention to the chips being produced from the cut and compare them to the **Chip Inspection Chart** on **Page 28** to properly set the downfeed rate.

Angle Cuts

The headstock can be swiveled to cut angles 0° – 45° to the right and 0° – 60° to the left for a total swing of 105°

Cuts to the Right

1. DISCONNECT BANDSAW FROM POWER!
2. Loosen the lock handle shown in **Figure 38**, then swivel the headstock to the desired angle, using the angle scale as a guide.

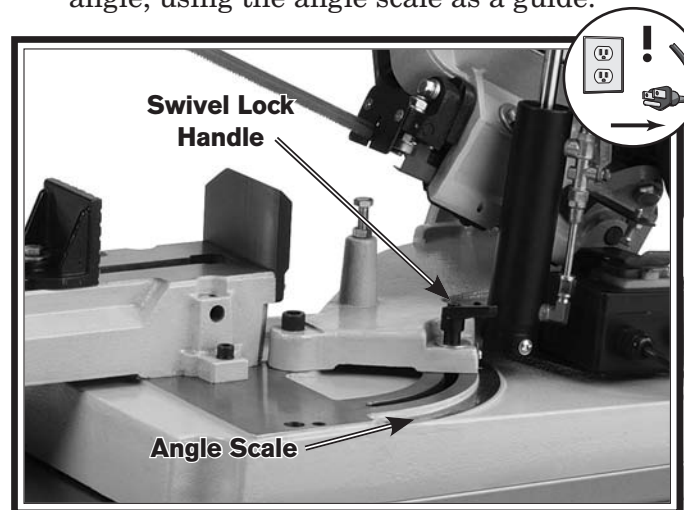


Figure 38. Swivel base.

3. Move the saw through its full range of motion to make sure the blade will not contact the vise during operation, then tighten the swivel lock handle.

Cuts to the Left

If you need to make a cut from 45° to 60°, you will have to make the cut to the left, which will require moving the vise to the right side of the machine.

1. DISCONNECT BANDSAW FROM POWER!
2. Support the vise with one hand and remove the two cap screws that secure the vise to the machine base, then set the vise aside.
3. Lift the headstock to the upmost position, then close the downfeed valve to prevent it from lowering.
4. Remove the two spacers from the holes on the left side of the machine base, then reposition them into the two holes in the right side of the machine base, as shown in **Figure 39**.

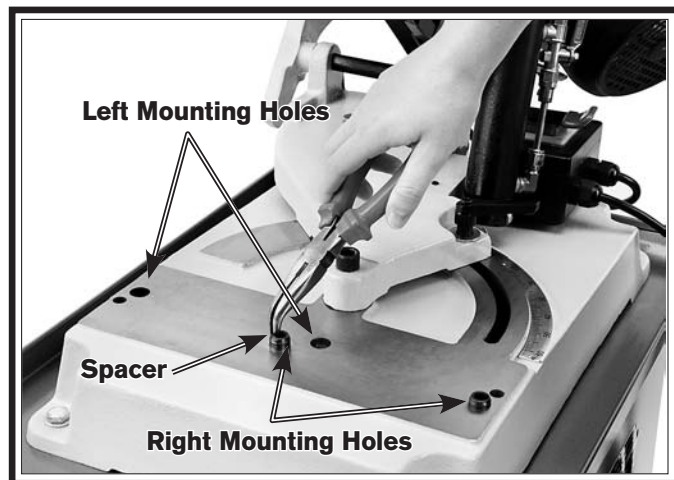


Figure 39. Moving vise spacers.

5. Place the vise over the spacers, aligning it so it sits flush on the machine base, then use the two cap screws removed in **Step 2** to secure the vise to the base.
6. Loosen the lock handle shown in **Figure 38**, then swivel the headstock to the desired angle, using the angle scale as a guide.
7. Move the saw through its full range of motion to make sure the blade will not contact the vise during operation, then tighten the swivel lock handle.

Vise

⚠ CAUTION

Always turn the saw OFF and allow the blade to come to a complete stop before using the vise! Failure to follow this caution may lead to injury.

Figure 40 shows the correct methods for holding different workpiece shapes.

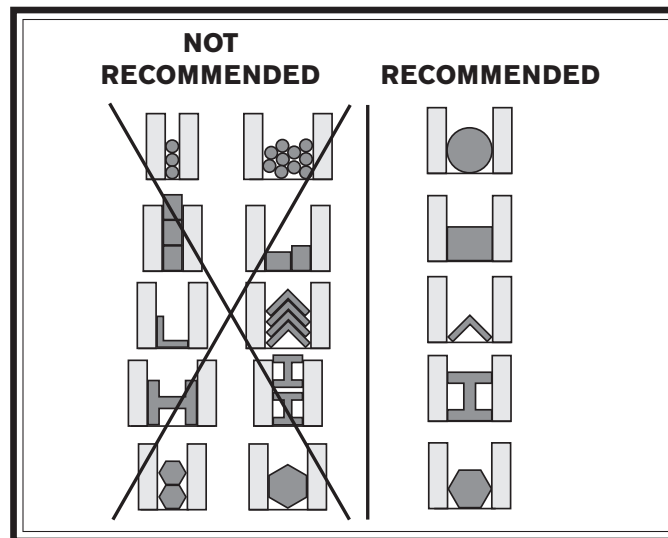


Figure 40. Workholding options by material shape.

Work Stop

The work stop allows you to repeat cuts at the same length.

To adjust the blade guide:

1. DISCONNECT BANDSAW FROM POWER!
2. Insert the work stop rod approximately $\frac{3}{4}$ " into the vise base.
3. Tighten the base set screw (Figure 41).

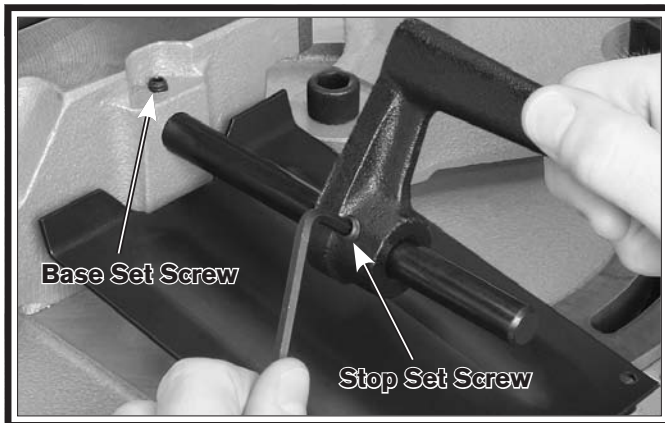


Figure 41. Installing stop rod.

4. Slide the work stop onto the work stop rod and tighten the stop set screw.

Blade Guide

The upper blade guide should be positioned to within approximately $\frac{1}{4}$ " of the workpiece for all cutting operations. The support provided by keeping the blade guides close ensures straight cuts by keeping the blade from twisting and drifting off the cut line.

To adjust the blade guide:

1. DISCONNECT BANDSAW FROM POWER!

2. Loosen the knob shown in Figure 42 and slide the blade guide to within $\frac{1}{2}$ " of the workpiece, then re-tighten the knob.

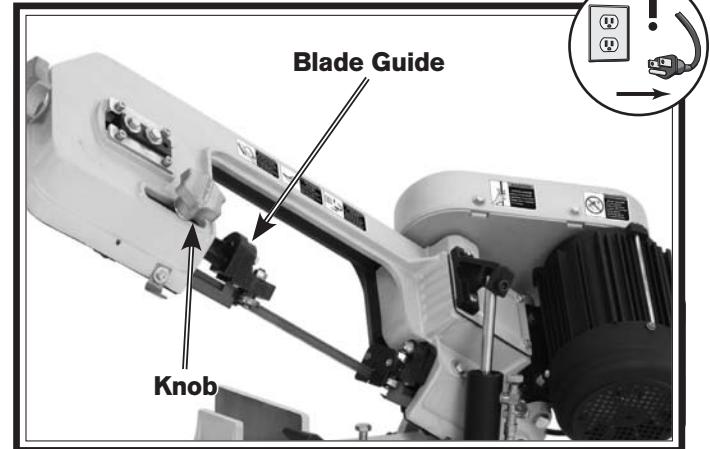


Figure 42. Blade guides.

Operation Tips

Review the following tips to help you safely and effectively operate your bandsaw and get the maximum life out of your saw blades.

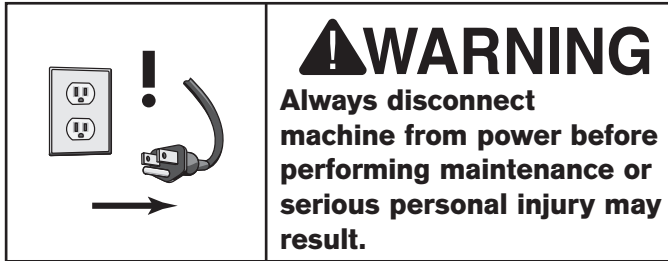
- Use the work stop to quickly and accurately cut multiple pieces of stock to the same length.
- Allow the blade to reach full speed before engaging the workpiece. Never start a cut with the blade in contact with the workpiece.
- Pay attention to the chips produced by the cutting operation and use their appearance to fine-tune the blade speed, feed speed, and pressure (refer to the **Chip Inspection Chart** on Page 28).
- Wait until the blade has completely stopped before removing the workpiece from the vise, and avoid touching the cut end—it could be very hot!

NOTICE

Release blade tension at the end of each use to prolong blade life.

Maintenance Schedule Lubrication

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.



Daily

- Check/correct loose mounting bolts.
- Check/correct damaged or dull saw blade.
- Check/correct worn or damaged wires.
- Clean/protect table.
- Clean metal chips from upper and lower wheel areas, and empty the chip chute.
- Correct any other unsafe condition.

Monthly

- Check for V-belt tension, damage, or wear.
- Lubricate all components outlined in this section, with the exception of the gearbox.

Yearly

- Lubricate gearbox.

Cleaning

Use a brush and a shop vacuum to remove chips and other debris from the machine. Keep the non-painted surfaces rust-free with a quality rust preventative.

Periodically, remove the blade and thoroughly clean all metal chips or built-up grease from the wheel surfaces and blade housing.

Before applying lubricant, wipe the area clean for best results.

Lubricate the following areas

- Blade Tension Mechanism:** Open the main blade guard, and apply a few drops of oil on the tension knob lead screw.
- Blade and Guides:** Apply a few drops of light machine oil on the blade and the blade guides daily.
- Gear Box:** Change the gear oil annually (**Page 33**).
- Table and Machined Surfaces:** Keep bare metal surfaces rust-free with regular applications of a quality rust preventative. For long term storage you may want to consider products like Boeshield T-9™.
- Vise Leadscrew:** Clean the leadscrew, then paint it with multi-purpose grease as needed.

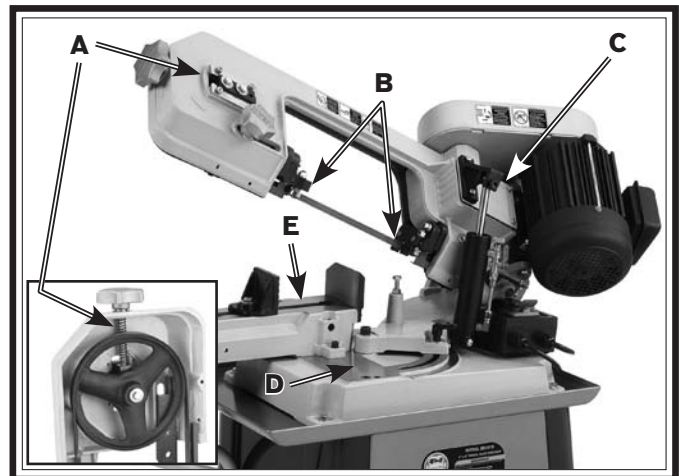


Figure 43. Lubrication points.

Gearbox

Items Needed

| | Qty |
|--|----------------------|
| Wrench 4mm | 1 |
| Mobil Spartan EP220 or ISO 220 EP Equivalent Gear Oil | Approximately 1 Pint |
| Handheld Oil Pump | 1 |
| Shop Rags | As needed |
| Wooden Blocks | As needed |

To change the gearbox oil:

1. DISCONNECT BANDSAW FROM POWER!
2. Loosen the four hex bolts that secure the machine to the cabinet.
3. With the help of another person, carefully remove the saw from the stand and place it on a workbench. Use wooden blocks to support the machine so that the gearbox cover is horizontal, as shown in **Figure 44**.

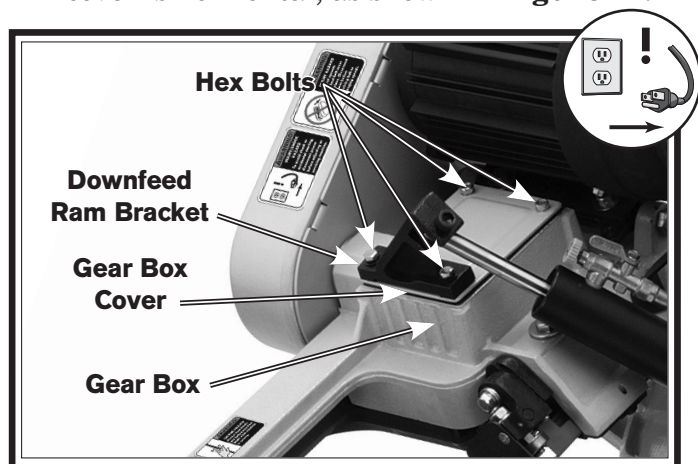


Figure 44. Gear box location.

Make sure the machine is sufficiently supported and stable so that it will not shift during this procedure.

4. Remove the four hex bolts that secure the gearbox cover, then remove the gearbox cover and downfeed ram bracket.
5. Use a handheld oil pump to draw the oil out of the gearbox, then use a rag to remove any remaining oil and debris.
6. Add oil to the gearbox until it is approximately half full, then replace the gearbox cover.

Machine Storage

All machinery will develop serious rust problems and corrosion damage if it is not properly prepared for storage. If decommissioning this machine, use the steps in this section to ensure that it remains in good condition.

To prepare your machine for storage or decommission it from service:

1. DISCONNECT BANDSAW FROM POWER!
2. Thoroughly clean all unpainted, bare metal surfaces, then coat them with a light weight grease or rust preventative. Take care to ensure these surfaces are completely covered but that the grease or rust preventative is kept off of painted surfaces.

If the machine will be out of service for only a short period of time, use a quality medium-weight machine oil (not auto engine oil) in place of the grease or rust preventative.

3. Loosen or remove the belt and the blade so they do not stretch while the machine is stored.
4. If the machine will be out of service for only a short period of time, start the machine once a week and run all gear-driven components for a few minutes. This will put a fresh coat of gear oil on the gearing components inside the gearbox.

If it will be out of service for a long period of time, drain, then completely fill the gearbox with the recommended gear oil so components above the normal oil level do not develop rust. (Make sure to put a tag on the controls as a reminder for the re-commissioning process to adjust the gear oil level before starting the machine.)

5. Completely cover the machine with a tarp or plastic sheet that will keep out dust and resist liquid or moisture. If machine will be stored in/near direct sunlight, use a cover that will block the sun's rays.

Blade Tracking

Blade tracking describes the way the blade rides on the bandsaw wheels. A properly tracking blade will ride approximately 1/16" from the blade shoulder without touching it and will not wander back and forth when the blade is running. Blade tracking only needs to be adjusted if the blade rubs against the wheel shoulder or moves more than 1/16" away from the shoulder.

| Tools Needed | Qty |
|----------------------------|-----|
| Wrench or Socket 14mm..... | 1 |

To adjust the blade tracking on the bandsaw:

1. DISCONNECT BANDSAW FROM POWER!
2. Position the bandsaw in the vertical position.
3. Open the wheel access cover.
4. Loosen, but do not remove the lower hex bolt in the blade wheel tilting mechanism shown in **Figure 45**.

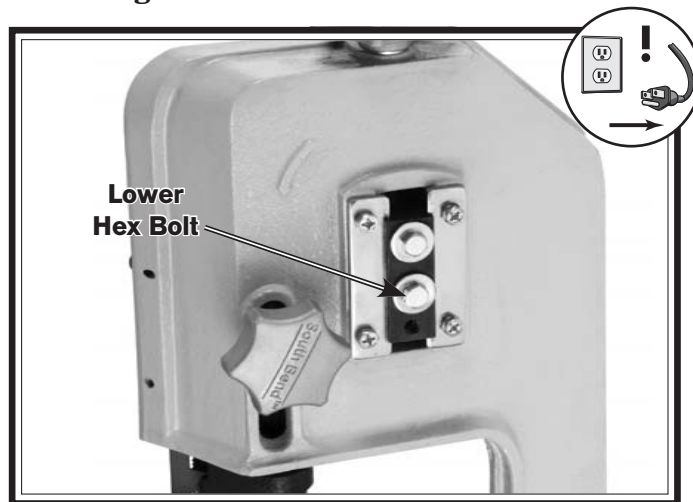


Figure 45. Blade tracking adjustments.

5. Use the blade tension knob to release the blade tension, as shown in **Figure 46**.

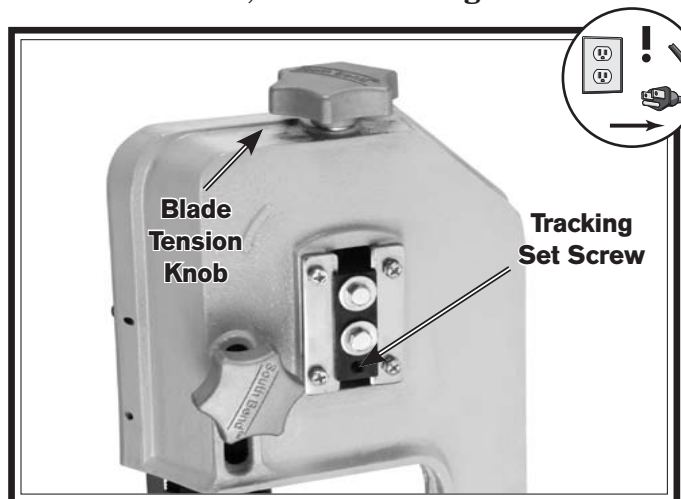


Figure 46. Adjusting tracking hex bolt.

6. Adjust the tracking set screw shown in **Figure 46**.
 - Tightening the tracking set screw will move the blade closer to the shoulder of the wheel.
 - Loosening the tracking set screw will move the blade away from the shoulder.
7. Tighten the lower hex bolt loosened in **Step 4**, then tension the blade.
8. Reconnect the power and turn **ON** the bandsaw.
 - If the blade tracks along the shoulder of the wheel (without rubbing), the blade is tracking properly and this adjustment is completed.
 - If the blade walks away from the shoulder of the wheel or hits the shoulder, turn the bandsaw **OFF**, disconnect it from power, then repeat **Steps 4–8**.
9. Turn the bandsaw **OFF**, disconnect it from power, then replace the blade guard and wheel access cover.

Blade Guide Bearings

The blade guide bearings must support the blade correctly to make cuts that are perpendicular to the table surface. One bearing on each assembly has an eccentric shaft that can be adjusted to properly support the blade. The bearings are secured in place by a hex nut and lock washer, as shown in **Figure 47**.

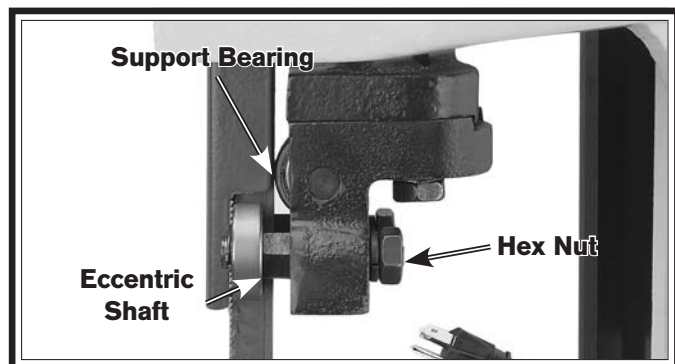


Figure 47. Blade guide adjustments.

| Tools Needed | Qty |
|----------------------------|------------|
| Wrench or Socket 12mm..... | 1 |

To adjust the blade guide bearings:

1. DISCONNECT BANDSAW FROM POWER!
2. Lift the headstock and close the downfeed valve to stop it in the uppermost position.
3. Loosen the hex nuts that secure the eccentric shafts attached to the guide bearings.
4. Adjust the eccentric shaft as necessary so that the bearing pushes against the blade just enough to hold the blade flat between the bearings.

Note: Since the bearings twist the blade into position, it is acceptable if there is 0.001"–0.002" gap between the blade and the front or back of the bearing. Just make sure not to squeeze the blade too tightly with the bearings. After the guide bearings are set, you should be able to rotate the guide bearings (although they will be stiff) with your fingers.

5. Adjust the support bearing in the same manner, but leave a gap between 0.002–0.003" from the back of the blade.

Squaring Blade

Frequently check and adjust this setting. A blade that is perpendicular to the table surface provides the best cutting results with minimal side loading and blade wear.

| Tools Needed | Qty |
|----------------------------|------------|
| Wrench or Socket 12mm..... | 1 |
| Machinist Square..... | 1 |

To square the blade to the table:

1. DISCONNECT BANDSAW FROM POWER!
2. Separate the blade guides as far as possible, then lower the bandsaw all the way until it contacts the downfeed stop bolt.
3. Place a square on the table bed and against the edge of the blade, as shown in **Figure 48**, then check different points along the length of the table between the blade guides.

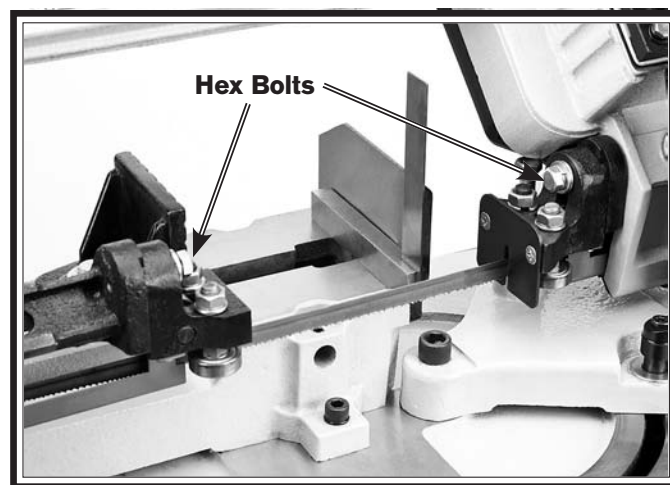


Figure 48. Squaring the blade.

4. If the blade is not square to the table, loosen the hex bolts shown in **Figure 48** and rotate the guide bearing assemblies as necessary until the blade is perpendicular to the bed, then re-tighten the hex bolts.

V-Belt

If the blade stops moving while the motor is still running, the V-belt may be slipping and will need to be tightened.

To tighten the V-belt:

1. DISCONNECT BANDSAW FROM POWER!
2. Open the belt cover, then loosen the belt tension bolt shown in **Figure 49** to allow the motor to pivot.



Figure 49. Motor tension bolt.

3. Release the motor and let its weight tension the belt. If necessary, apply downward pressure to the motor to further tighten the belt. When properly tensioned, the belt should deflect approximately ¼" when pressed with moderate pressure, as shown in **Figure 50**.

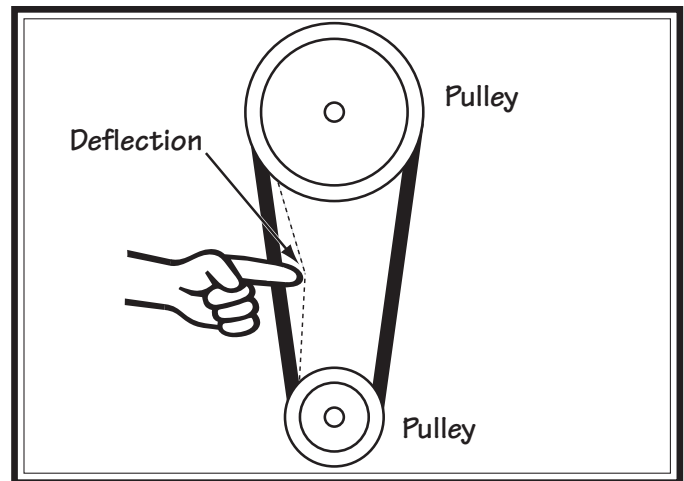


Figure 50. Belt deflection.

If the V-belt shows signs of excessive wear, such as cracking or fraying, it must be replaced.

To replace the V-belt:

1. DISCONNECT BANDSAW FROM POWER!
2. Open the belt cover, then loosen the belt tension bolt shown in **Figure 49** to allow the motor to pivot.
3. Lift the motor to relieve the belt tension, then remove the belt.
4. Install a new belt, then release the motor and let its weight tension the belt.
5. Re-tighten the belt tension bolt and close the belt cover.

Downfeed Stop

If the motor stops before the cut is complete, or the blade comes into contact with the cast-iron base, the downfeed stop bolt and OFF button lever will need to be adjusted.

To adjust the downfeed stop bolt and OFF button lever:

1. DISCONNECT BANDSAW FROM POWER!
2. Adjust the downfeed stop bolt and jam nut with a 14mm wrench (see **Figure 51**), so the bandsaw blade teeth are just below the table surface when the headstock is fully lowered (refer to **Downfeed Rate** on **Page 29** for instructions on how to lower the headstock).

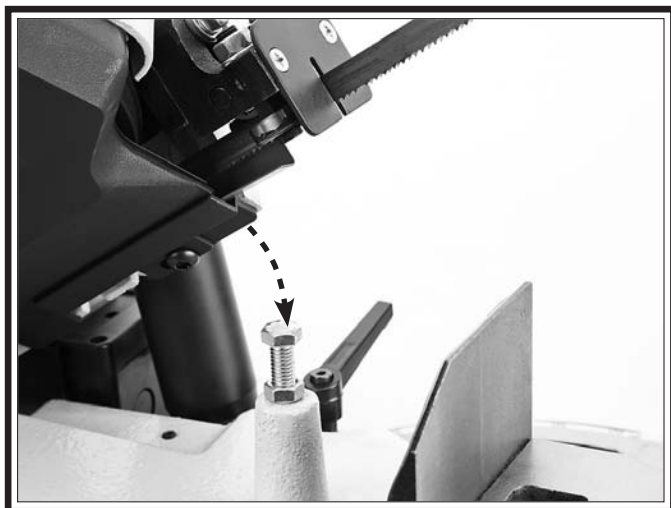


Figure 51. Adjusting downfeed stop bolt.

3. With the headstock fully lowered, loosen the 12mm stop bolt and jam nut shown in **Figure 52**.

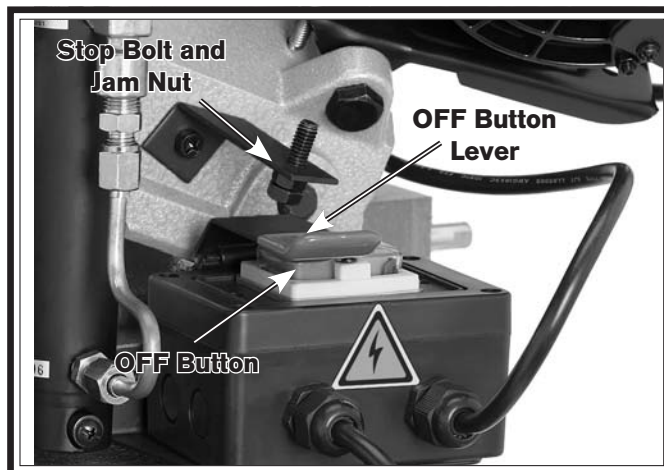
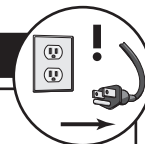


Figure 52. OFF button lever and stop bolt.

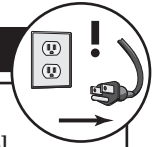
4. Push down on the OFF button lever so the button is completely depressed.
5. While keeping the lever held down, use your fingers to turn the stop bolt until the head touches the auto-off lever.
6. Back off the stop bolt a ½ turn, then tighten the jam nut against the stop bracket without turning the stop bolt.

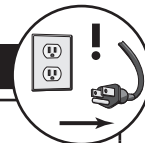
If you need replacement parts, or if you are unsure how to do any of the solutions given here, feel free to call us at (360) 734-1540.



| Symptom | Possible Cause | Possible Solution |
|---|---|---|
| Machine does not start. | <ol style="list-style-type: none"> 1. Power supply switched off/has incorrect voltage. 2. Blown fuse/tripped circuit breaker at main panel. 3. Plug or receptacle is corroded or mis-wired. 4. Break or short in wiring; or loose connections. 5. Motor wired incorrectly. 6. Motor ON/OFF switch at fault. 7. Start capacitor blown or at fault. 8. Centrifugal switch at fault. 9. Motor at fault. | <ol style="list-style-type: none"> 1. Switch power supply on/verify voltage. 2. Correct the cause of overload, then reset/replace fuse or breaker. 3. Clean/retighten contacts; correct the wiring. 4. Trace/replace broken or corroded wires; fix loose connections. 5. Wire motor correctly (refer to inside junction box cover or manual). 6. Replace switch. 7. Replace start capacitor. 8. Adjust/replace centrifugal switch. 9. Test for shorted windings, bad bearings and repair or replace. |
| Main motor chatters during startup or during operation. | <ol style="list-style-type: none"> 1. Extension cord (if used) is causing voltage drop. 2. Power supply has incorrect voltage on one or more legs. | <ol style="list-style-type: none"> 1. Move machine closer to the power source or use a larger gauge or shorter extension cord. 2. Contact your power company to fix the power supply. |
| Machine has excessive vibration or noise. | <ol style="list-style-type: none"> 1. Blade is missing teeth. 2. Motor fan rubbing on fan cover. 3. Motor or table is loose. 4. V-belt loose. 5. Guide post lock lever is loose. 6. V-belt worn or damaged. 7. Pulley loose or not in alignment; shaft bent. 8. Centrifugal switch out of adjustment; at fault. 9. Motor bearings worn or damaged. | <ol style="list-style-type: none"> 1. Replace blade. 2. Fix/replace fan cover; replace loose or damaged fan. 3. Tighten any loose fasteners. 4. Tighten V-belt. 5. Tighten the lock lever. 6. Replace V-belt. Use link belts if possible. 7. Replace worn pulley, key, and shaft, and realign. 8. Adjust/replace centrifugal switch. 9. Replace motor bearings or replace motor. |

| Symptom | Possible Cause | Possible Solution |
|---|---|---|
| Machine stalls or slows when operating. | <ol style="list-style-type: none"> 1. Too much feed pressure. 2. Workpiece is warped and binding blade. 3. Blade is not correct for material being cut. 4. Belt slipping. 5. Motor overheated. 6. Motor wired incorrectly. 7. Motor at fault. | <ol style="list-style-type: none"> 1. Reduce feed pressure. 2. Fabricate a jig for better workpiece control. 3. Use the correct blade for the operation. Refer to Blade Selection section beginning on Page 26. 4. Tension/replace belt; ensure pulleys are aligned. 5. Let cool, clean motor, and reduce workload. 6. Review wiring diagram on motor cover; correct wire connections. 7. Test for shorted windings, bad bearings and repair or replace. |
| Workpiece cut angle incorrect or out of square. | <ol style="list-style-type: none"> 1. Scale not calibrated vise is loose. 2. Table guide post is loose or out of alignment. | <ol style="list-style-type: none"> 1. Zero fence to blade and realign scale. Tighten loose vise fasteners. 2. Tighten loose guidepost hardware or lock levers. Align the guide post (see Page 35). |
| Machine or blade bogs down in the cut. | <ol style="list-style-type: none"> 1. Excessive load on the blade. 2. Blade is dull, wanders, and gets pinched in the cut. 3. Blade is dull. 4. The blade TPI is too coarse for the thin workpiece. 5. Blade is loose. 6. V-belt loose; belt squeals at times. 7. Blade is loading up. 8. V-belt worn and slips. | <ol style="list-style-type: none"> 1. Reduce feed rate or increase blade speed 2. Replace blade, adjust guides and tracking. 3. Replace blade (see Page 25). 4. Use a blade with at least 3 teeth contacting the material at all times. 5. Clean wheels and increase blade tension. 6. Tighten V-belt (see Page 26). 7. Install a blade with more suitable TPI or different style of teeth. 8. Replace V-belt (see Page 26). |
| Blade tracks incorrectly, or comes off wheels. | <ol style="list-style-type: none"> 1. Feed rate is too fast. 2. Blade guides need adjustment. 3. Blade is not tracking correctly. 4. Blade is bell-mouthed. 5. Blade is dull, wanders, and gets pinched in the cut. 6. Blade tension is too loose. 7. Incorrect blade for bandsaw. 8. The blade has insufficient support. 9. Wheel tires are loaded with metal shavings. | <ol style="list-style-type: none"> 1. Reduce feed rate, or decrease blade TPI. 2. Adjust blade guides (see Page 31). 3. Adjust blade tracking (see Page 34). 4. Install new blade, and regularly remove tension from blade when not in use. 5. Replace blade, re-secure the workpiece from shifting. 6. Increase blade tension (see Page 26). 7. Install correct blade for machine. 8. Tighten the blade guide as close to the workpiece as possible. 9. Clean wheel tires. |





| Symptom | Possible Cause | Possible Solution |
|---|---|---|
| The cut is crooked, the blade wanders, slow cuts, or shows overheating on one side of the cut or the blade. | <ol style="list-style-type: none"> 1. The feed pressure is too high. 2. Blade is loading up. 3. Blade tension is too loose. 4. Blade installed backwards. 5. Dull blade; missing teeth. 6. The blade speed is wrong. 7. The blade tracking is wrong. | <ol style="list-style-type: none"> 1. Decrease the feed rate. 2. Install a blade with more suitable TPI or different style of teeth. 3. Increase blade tension. 4. Check blade rotation as described in “test run” and reverse blade if necessary. 5. Replace blade. 6. Adjust feed rate and cutting speed as required. 7. Adjust the blade tracking back to normal. |
| Blade dulls prematurely, or metal sticking to the blade. | <ol style="list-style-type: none"> 1. Blade is improperly broken in. 2. The blade gullets are loading up with chips. 3. The blade TPI is too fine for the thick workpiece, and the teeth load up and overheat. 4. The workpiece has hard spots, welds, or scale. | <ol style="list-style-type: none"> 1. Replace blade, and complete blade break in procedure. 2. Use a blade that has larger gullets to carry out material. 3. Use a coarser-tooth blade, adjust feed rate, adjust blade speed. 4. Replace the blade with a special blade for cutting hardened materials. |
| Repetitious noise coming from machine. | <ol style="list-style-type: none"> 1. Pulley set screws or keys are missing or loose. 2. Blade is missing teeth. 3. Motor fan is hitting the cover. 4. V-belt is defective. 5. Blade weld contacting blade guides. 6. Blade weld may be failing. | <ol style="list-style-type: none"> 1. Inspect keys and set screws. Replace or tighten if necessary. 2. Replace blade. 3. Adjust fan cover mounting position, tighten fan, or shim fan cover. 4. Replace V-belt. 5. Grind blade weld down smaller. 6. Cut and reweld the blade, or replace the blade. |
| Blade wears on one side or shows overheating. | <ol style="list-style-type: none"> 1. The blade guides are worn or mis-adjusted. 2. The blade support is inadequate. 3. Dull or incorrect blade. 4. Blade is bell-mouthed. | <ol style="list-style-type: none"> 1. Re-adjust or replace the blade guides. 2. Tighten the blade guide as close to the workpiece as possible. 3. Replace blade. 4. Install new blade. |
| Vibration when operating or cutting. | <ol style="list-style-type: none"> 1. Loose or damaged blade. 2. Worn wheel bearing. 3. Bent or dull blade. 4. Wheels out of balance. 5. Loose machine component. 6. Belt has a high spot. 7. Bandsaw blade wheel is bent or out of balance. | <ol style="list-style-type: none"> 1. Tighten or replace blade. 2. Check/replace wheel bearing. 3. Replace blade. 4. Replace wheels. 5. Tighten loose component. 6. Replace/adjust the V-belt. 7. Check and replace for bad wheel or bearing. |

Electrical Safety Instructions

These pages are accurate at the time of printing. In the constant effort to improve, however, we may make changes to the electrical systems of future machines. Study this section carefully. If you see differences between your machine and what is shown in this section, call Technical Support at (360) 734-1540 for assistance BEFORE making any changes to the wiring on your machine.

- Shock Hazard:** It is extremely dangerous to perform electrical or wiring tasks while the machine is connected to the power source. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. For your own safety, disconnect machine from the power source before servicing electrical components or performing any wiring tasks!
- Wire Connections:** All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.
- Modifications:** Using aftermarket parts or modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire.
- Motor Wiring:** The motor wiring shown in these diagrams is current at the time of printing, but it may not match your machine. Always use the wiring diagram inside the
- Circuit Requirements:** Connecting the machine to an improperly sized circuit will greatly increase the risk of fire. To minimize this risk, only connect the machine to a power circuit that meets the minimum requirements given in this manual.
- Capacitors/Inverters:** Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.
- Wire/Component Damage:** Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components before completing the task.
- Experiencing Difficulties:** If you are experiencing difficulties understanding the information included in this section, contact

WIRING DIAGRAM COLOR KEY

| | | | | |
|------------|-----------------|-----------------|-----------------|-------------------|
| BLACK — Bk | BLUE WHITE — Bw | RED — Rd | PINK — Pk | WHITE — Wt |
| BLUE — Bl | GREEN — Gn | LIGHT BLUE — Lb | PURPLE — Pu | YELLOW GREEN — Yg |
| BROWN — Br | GRAY — Gy | ORANGE — Or | TUR-QUIOSE — Tu | YELLOW — Yl |

NOTICE: The photos and diagrams included in this section are best viewed in color. You can see them in color at www.southbendlathe.com.

220V Conversion

Wiring diagrams are provided in this section showing the Model SB1018 wired for both 110V and 220V. Refer to these diagrams if needed when following this procedure. Additionally, you must purchase a 220V switch (Part No. PSB1018204) in order to complete the conversion.

Items Needed

| | Qty. |
|--|-----------|
| 220V Switch (Part No. PSB1018204)..... | 1 |
| Phillips Screwdriver #2 | 1 |
| Wrench 18mm | 1 |
| Wire nut (sized for three 14 Ga. wires)..... | 1 |
| Electrical Tape | As needed |
| Wire stripper | As needed |

To convert the Model SB1018 to 220V:

1. DISCONNECT BANDSAW FROM POWER!
2. Open the motor junction box, then loosen the wire terminals indicated in **Figure 53**. Remove the wires connected to those terminals.

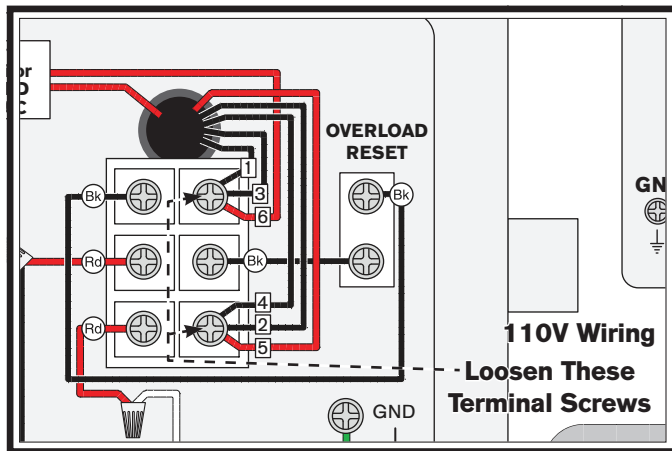


Figure 53. Wiring terminal locations.

3. Use a wire nut to connect wires #2, #3, and #5, then wrap the wires and nuts with electrical tape.
4. Connect wires #1 and #6 to the upper right terminal and wire #4 to the lower right terminal shown in **Figure 54**. Tighten the terminal screws to secure the wires.

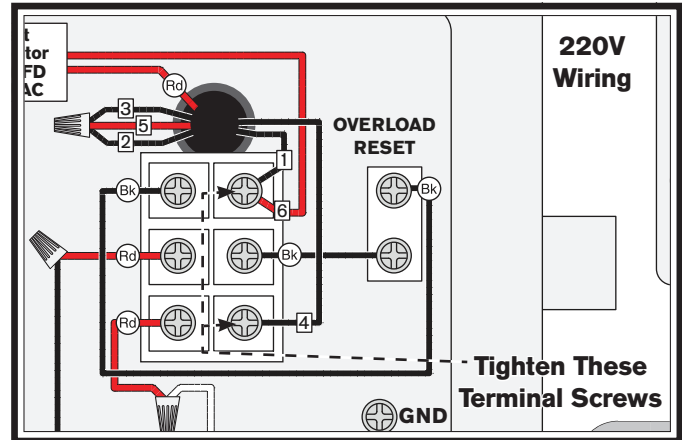


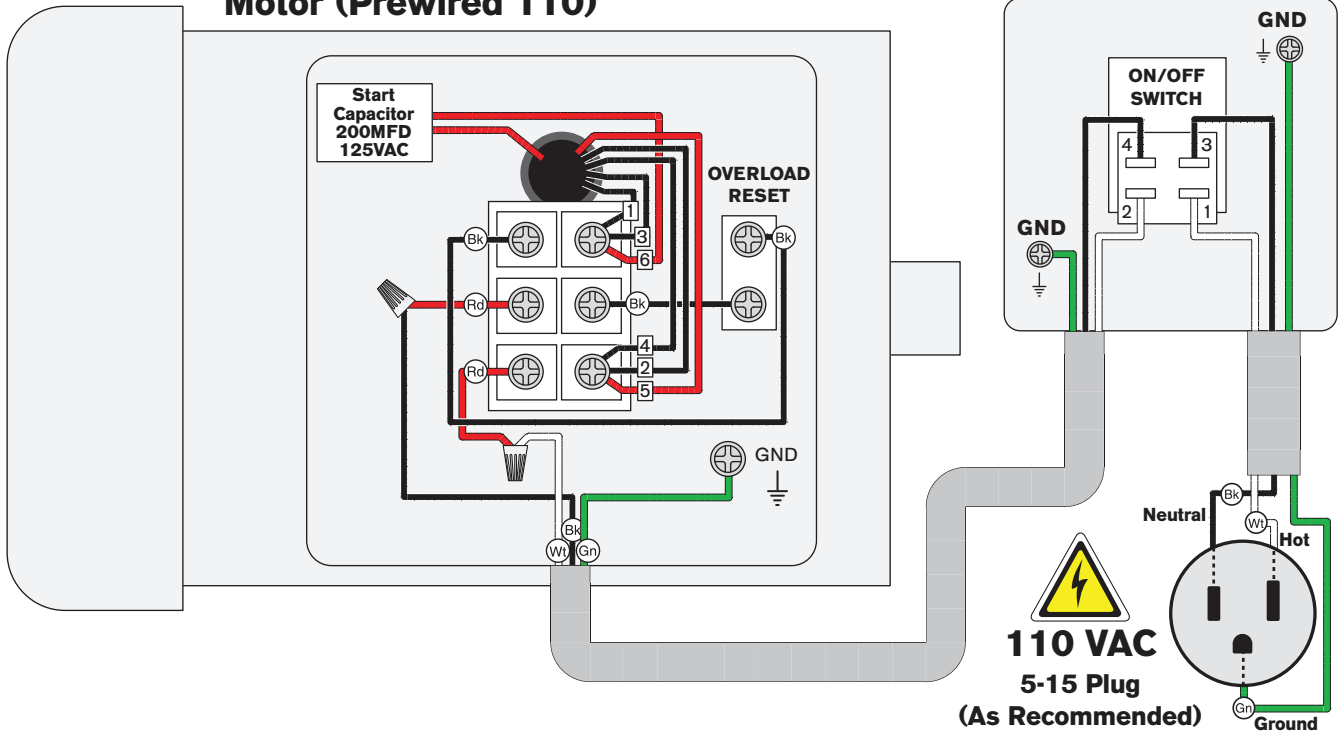
Figure 54. Rewired for 220V.

5. Close the motor junction box and secure the cover with the provided screw.
6. Use the 18mm wrench to remove the four hex bolts that secure the machine to the cabinet, then with the help of another person, remove the machine from the cabinet. Carefully place the machine on its side to gain access to the underside of the base.
7. Remove the black plastic switch cover from behind the switch. Disconnect the two wires from the back of the switch, then remove the switch.
8. Install the 220V switch, then replace the two wires removed in **Step 7** in the corresponding locations from which they were removed.
9. Replace the switch cover, then with the help of another person, place the machine back onto the cabinet and secure it with the hex bolts removed in **Step 6**.

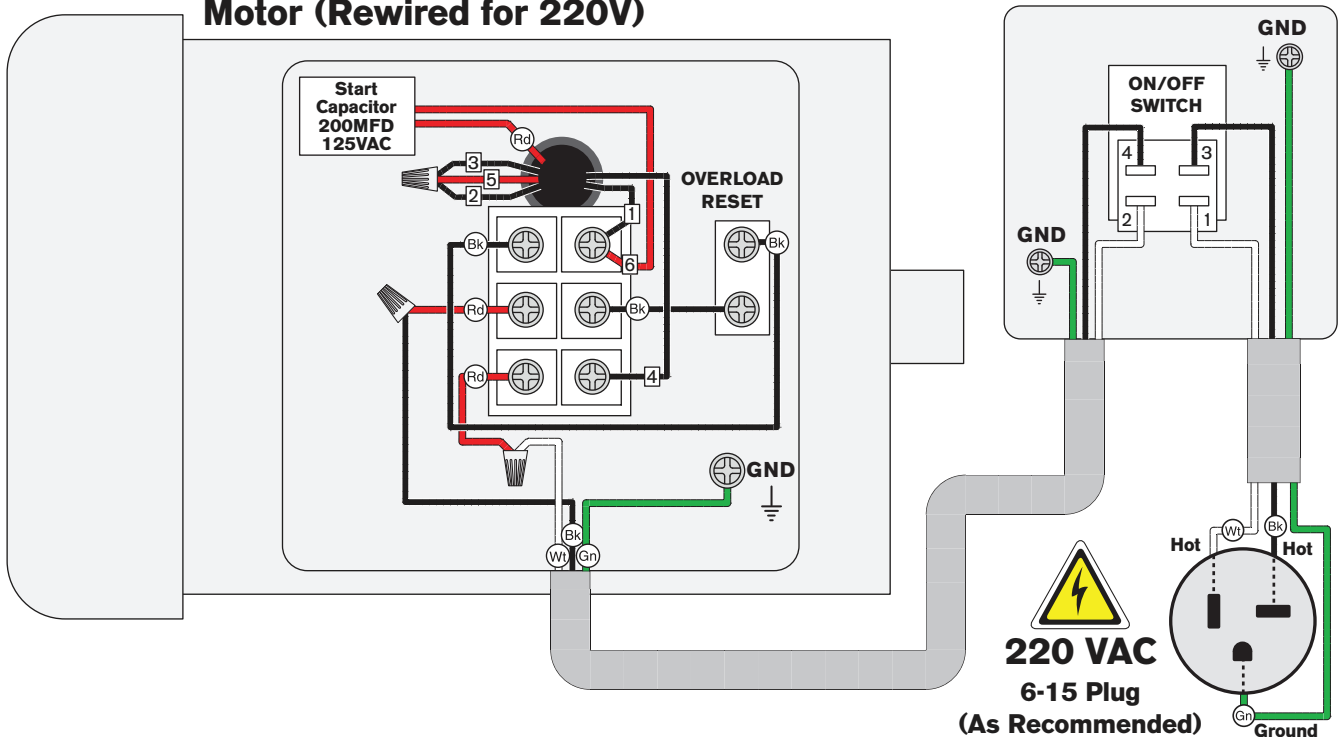


Wiring Diagram

Motor (Prewired 110)



Motor (Rewired for 220V)



READ PAGE 41 BEFORE DOING ANY WIRING!

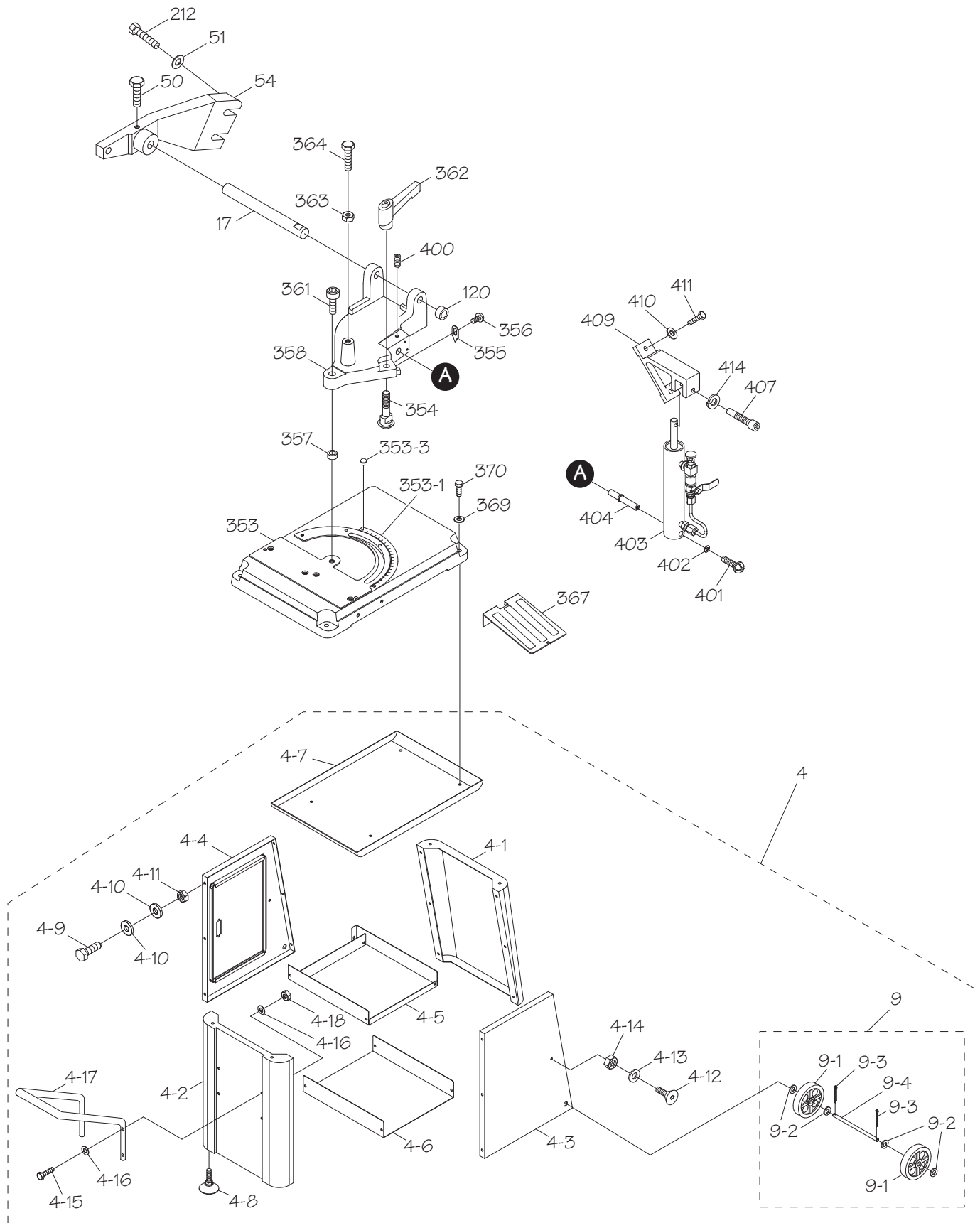


Wiring Component Locations



Figure 55. Wiring component locations.

Base & Cabinet Stand

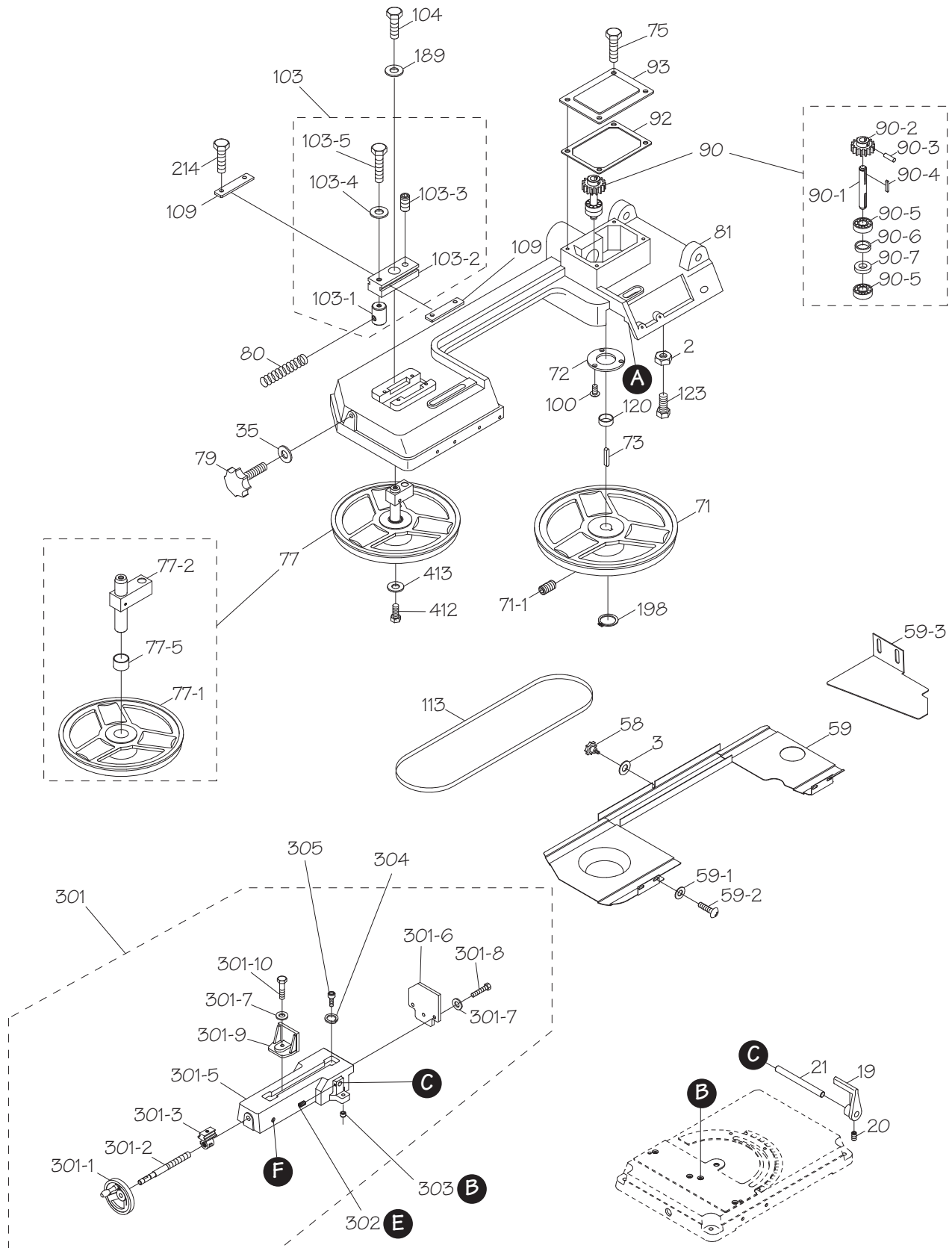


Base & Cabinet Stand Parts List

| REF | PART # | DESCRIPTION |
|------|---------------|----------------------------|
| 4 | PSB1018004 | CABINET STAND ASSEMBLY |
| 4-1 | PSB1018004-1 | RIGHT PANEL |
| 4-2 | PSB1018004-2 | LEFT PANEL |
| 4-3 | PSB1018004-3 | FRONT PANEL |
| 4-4 | PSB1018004-4 | REAR PANEL ASSEMBLY W/DOOR |
| 4-5 | PSB1018004-5 | SHELF PANEL |
| 4-6 | PSB1018004-6 | BOTTOM PANEL |
| 4-7 | PSB1018004-7 | TOP PANEL |
| 4-8 | PSB1018004-8 | FOOT PAD ASSEMBLY |
| 4-9 | PB03M | HEX BOLT M8-1.25 X 16 |
| 4-10 | PW01M | FLAT WASHER 8MM |
| 4-11 | PNO3M | HEX NUT M8-1.25 |
| 4-12 | PFH23M | FLAT HD SCR M8-1.25 X 16 |
| 4-13 | PW01M | FLAT WASHER 8MM |
| 4-14 | PNO3M | HEX NUT M8-1.25 |
| 4-15 | PB03M | HEX BOLT M8-1.25 X 16 |
| 4-16 | PW01M | FLAT WASHER 8MM |
| 4-17 | PSB1018004-17 | CABINET HANDLE |
| 4-18 | PNO3M | HEX NUT M8-1.25 |
| 9 | PSB1018009 | WHEEL ASSEMBLY |
| 9-1 | PSB1017009-1 | WHEEL |
| 9-2 | PW08M | FLAT WASHER 16MM |
| 9-3 | PSB1018009-3 | COTTER PIN 1/8 X 1" |
| 9-4 | PSB1018009-4 | WHEEL AXLE |
| 17 | PSB1017017 | HEAD PIVOT ROD |
| 50 | PB07 | HEX BOLT 5/16-18 X 3/4 |
| 51 | PW07 | FLAT WASHER 5/16 |
| 54 | PSB1018054 | PIVOT BRACKET |

| REF | PART # | DESCRIPTION |
|-------|--------------|-----------------------------|
| 120 | PSB1017120 | BUSHING 19 X 17 X 7 |
| 212 | PB03 | HEX BOLT 5/16-18 X 1 |
| 353 | PSB1018353 | MACHINE BASE |
| 353-1 | PSB1018353-1 | ROTATION SCALE |
| 353-3 | PRIV001M | STEEL FLUTED RIVET 2 X 5MM |
| 354 | PSB1018354 | LOCK BOLT 3/8-16 X 2 |
| 355 | PSB1018355 | POINTER |
| 356 | PS01 | PHLP HD SCR 10-24 X 1/2 |
| 357 | PSB1018357 | SPACER |
| 358 | PSB1018358 | SWIVEL BASE |
| 361 | PCAP64 | CAP SCREW 1/2-13 X 1-1/2 |
| 362 | PSB1018362 | LOCK HANDLE 3/8-16 |
| 363 | PNO8 | HEX NUT 3/8-16 |
| 364 | PB58 | HEX BOLT 3/8-16 X 2 |
| 367 | PSB1018367 | PROTECTIVE PLATE |
| 369 | PW02 | FLAT WASHER 3/8 |
| 370 | PB24 | HEX BOLT 3/8-16 X 1-1/4 |
| 400 | PSS04 | SET SCREW 1/4-20 X 5/16 |
| 401 | PS06 | PHLP HD SCR 10-24 X 3/8 |
| 402 | PW03 | FLAT WASHER #10 |
| 403 | PSB1017403 | HYDRAULIC CYLINDER ASSEMBLY |
| 404 | PSB1018404 | CYLINDER PIVOT ROD |
| 407 | PSB1017407 | CYLINDER CAP SCREW |
| 409 | PSB1017409 | CYLINDER BRACKET |
| 410 | PLW02 | LOCK WASHER 1/4 |
| 411 | PB31 | HEX BOLT 1/4-20 X 1 |
| 414 | PLW04 | LOCK WASHER 3/8 |

Head & Vise

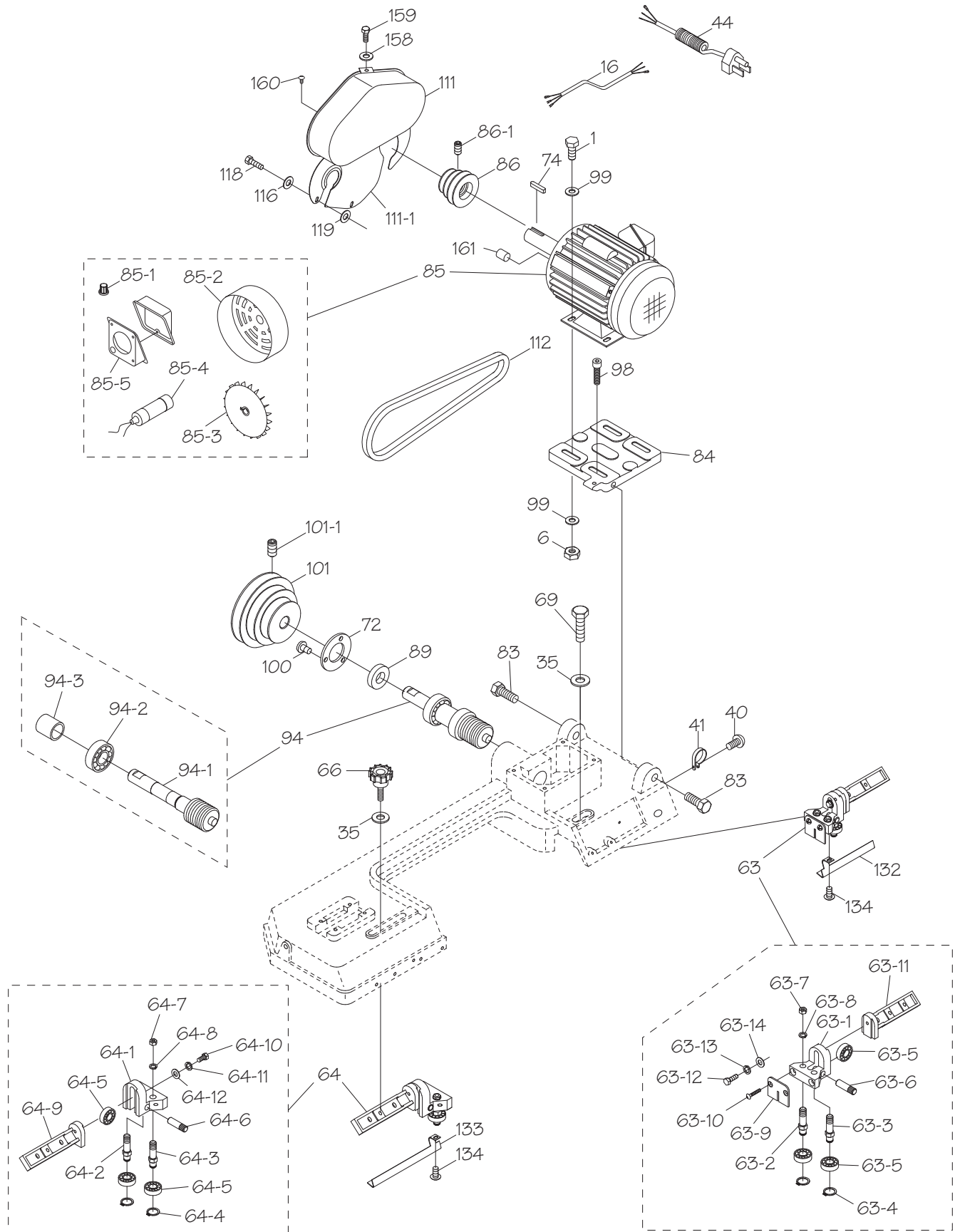


Head & Vise Parts List

| REF | PART # | DESCRIPTION |
|------|--------------|-------------------------------------|
| 2 | PN05 | HEX NUT 1/4-20 |
| 3 | PW06 | FLAT WASHER 1/4 |
| 19 | PSB1017019 | WORK STOP BRACKET |
| 20 | PSS17 | SET SCREW 5/16-18 X 5/6 |
| 21 | PSB1017021 | WORK STOP ROD |
| 35 | PW02 | FLAT WASHER 3/8 |
| 58 | PSB1017058 | SAFETY COVER KNOB BOLT 1/4-20 x 5/8 |
| 59 | PSB1017059 | BLADE SAFETY COVER |
| 59-1 | PW06 | FLAT WASHER 1/4 |
| 59-2 | PS07 | PHLP HD SCR 1/4-20 X 3/8 |
| 59-3 | PSB1017059-3 | REAR SAFETY COVER |
| 71 | PSB1018071 | REAR BLADE WHEEL |
| 71-1 | PSS17 | SET SCREW 5/16-18 X 5/16 |
| 72 | PSB1017072 | BEARING COVER |
| 73 | PK23M | KEY 5 X 5 X 25 |
| 75 | PB02 | HEX BOLT 1/4-20 X 58 |
| 77 | PSB1017077 | FRONT BLADE WHEEL ASSEMBLY |
| 77-1 | PSB1017077-1 | FRONT BLADE WHEEL |
| 77-2 | PSB1017077-2 | FRONT BLADE WHEEL SHAFT ASSEMBLY |
| 77-5 | PSB1017077-5 | BUSHING |
| 79 | PSB1017079 | BLADE TENSION KNOB BOLT 3/8-16 X 94 |
| 80 | PSB1017080 | COMPRESSION SPRING |
| 81 | PSB1017081 | HEAD CASTING |
| 90 | PSB1017090 | TRANSMISSION GEAR SHAFT ASSEMBLY |
| 90-1 | PSB1018090-1 | REAR BLADE WHEEL AXLE |
| 90-2 | PSB1017090-2 | TRANSMISSION GEAR |
| 90-3 | PRP20M | ROLL PIN 4 X 22 |
| 90-4 | PK23M | KEY 5 X 5 X 25 |
| 90-5 | P6202ZZ | BALL BEARING 6202ZZ |
| 90-6 | PSB1017090-6 | BEARING SPACER |
| 90-7 | PSB1017089 | OIL SEAL TC 15 X 35 X 7 |
| 92 | PSB1017092 | GEARBOX GASKET |

| REF | PART # | DESCRIPTION |
|--------|--------------|------------------------------|
| 93 | PSB1017093 | GEARBOX COVER |
| 100 | PFH37 | FLAT HD SCR 8-32 X 3/8 |
| 103 | PSB1017103 | BLADE TENSION SLIDE ASSEMBLY |
| 103-1 | PSB1017103-1 | SHAFT BLOCK |
| 103-2 | PSB1017103-2 | BLADE TENSION SLIDE PLATE |
| 103-3 | PSS38 | SET SCREW 5/16-18 X 5/8 |
| 103-4 | PW07 | FLAT WASHER 5/16 |
| 103-5 | PB12 | HEX BOLT 5/16-18 X 1-1/4 |
| 104 | PB03 | HEX BOLT 5/16-18 X 1 |
| 109 | PSB1017109 | BLADE TENSION SLIDE GUIDE |
| 113 | PSB1018113 | BLADE 14TPI 1/2 X 64-1/2" |
| 120 | PSB1017120 | BUSHING 19 X 17 X 7 |
| 123 | PB31 | HEX BOLT 1/4-20 X 1 |
| 189 | PW07 | FLAT WASHER 5/16 |
| 198 | PRO5M | EXT RETAINING RING 15MM |
| 214 | PB02 | HEX BOLT 1/4-20 X 5/8 |
| 301 | PSB1018301 | VISE ASSEMBLY |
| 301-1 | PSB1017028 | VISE HANDWHEEL ASSEMBLY |
| 301-2 | PSB1018301-2 | VISE LEADSCREW |
| 301-3 | PSB1018301-3 | LEADSCREW NUT |
| 301-5 | PSB1018301-5 | VISE BASE |
| 301-6 | PSB1018301-6 | LARGE VISE JAW |
| 301-7 | PW07 | FLAT WASHER 5/16 |
| 301-8 | PB07 | HEX BOLT 5/16-18 X 3/4 |
| 301-9 | PSB1018301-9 | SMALL VISE JAW |
| 301-10 | PB12 | HEX BOLT 5/16-18 X 1-1/4 |
| 302 | PSS03 | SET SCREW 1/4-20 X 3/8 |
| 303 | PSB1018303 | BUSHING |
| 304 | PW07 | FLAT WASHER 5/16 |
| 305 | PCAP30 | CAP SCREW 5/16-18 X 1/2 |
| 412 | PB07 | HEX BOLT 5/16-18 X 3/4 |
| 413 | PW07 | FLAT WASHER 5/16 |

Motor & Blade Guides

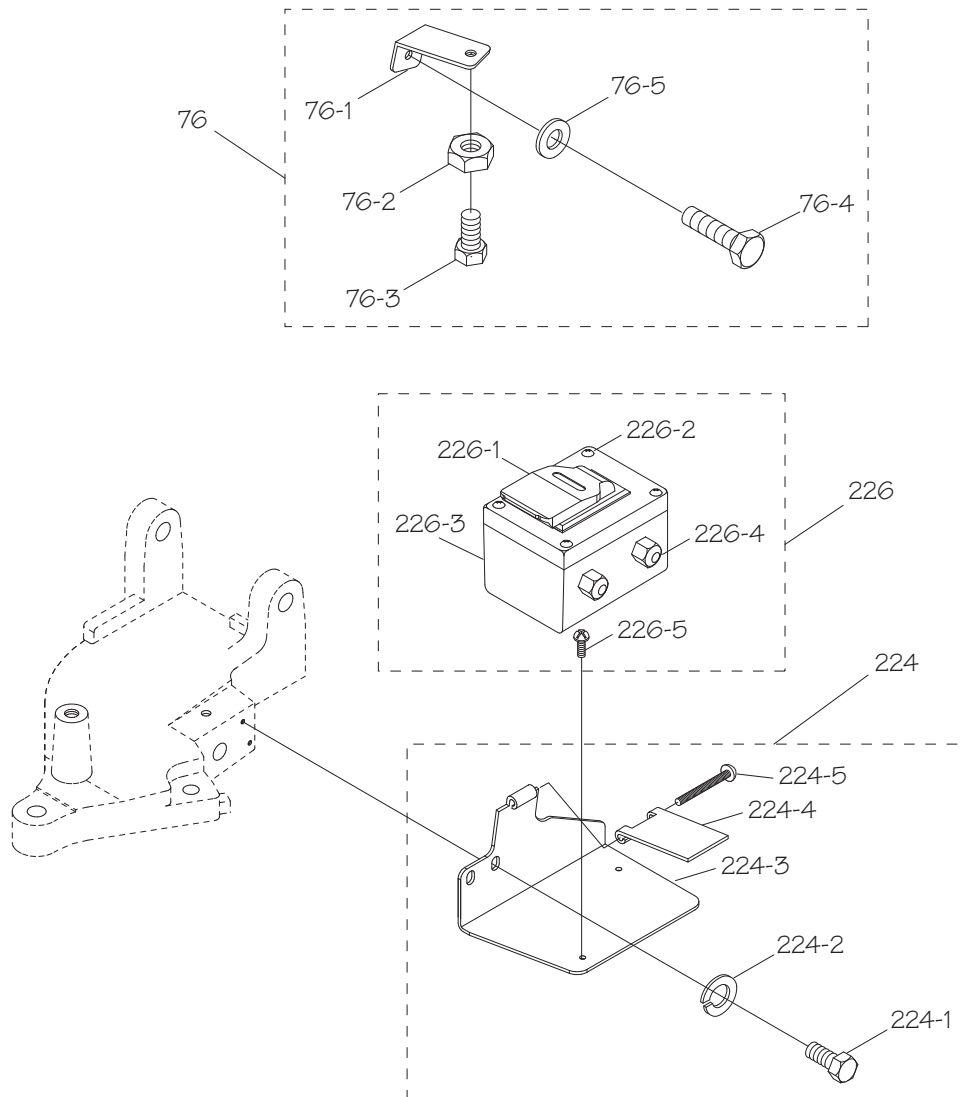


Motor & Blade Guides Parts List

| REF | PART # | DESCRIPTION |
|-------|---------------|--------------------------------------|
| 1 | PB07 | HEX BOLT 5/16-18 X 3/4 |
| 6 | PN02 | HEX NUT 5/16-18 |
| 16 | PSB1018016 | MOTOR CORD 18G 3W |
| 35 | PW02 | FLAT WASHER 3/8 |
| 40 | PS06 | PHLP HD SCR 10-24 X 3/8 |
| 41 | PSB1017041 | WIRE CLIP |
| 44 | PSB1018044 | POWER CORD 18G 3W 5-15 PLUG |
| 63 | PSB1018063 | REAR BLADE GUIDE ASSEMBLY |
| 63-1 | PSB1018063-1 | REAR BLADE GUIDE BRACKET |
| 63-2 | PSB1017063-2 | LEFT GUIDE SHAFT |
| 63-3 | PSB1017063-3 | RIGHT GUIDE SHAFT |
| 63-4 | PSB1017063-4 | GUIDE EXT RETAINING RING |
| 63-5 | P6000ZZ | BALL BEARING 6000ZZ |
| 63-6 | PSB1017063-6 | BEARING PIN 10 X 36 |
| 63-7 | PN11 | HEX NUT 3/8-24 |
| 63-8 | PLW04 | LOCK WASHER 3/8 |
| 63-9 | PSB1017063-9 | DEFLECTOR PLATE |
| 63-10 | PFH19 | FLAT HD SCR 1/4-20 X 3/8 |
| 63-11 | PSB1017063-11 | REAR BLADE GUIDE ARM |
| 63-12 | PB12 | HEX BOLT 5/16-18 X 1-1/4 |
| 63-13 | PLW01 | LOCK WASHER 5/16 |
| 63-14 | PW07 | FLAT WASHER 5/16 |
| 64 | PSB1018064 | FRONT BLADE GUIDE ASSEMBLY |
| 64-1 | PSB1018064-1 | FRONT BLADE GUIDE BRACKET |
| 64-2 | PSB1017063-2 | LEFT GUIDE SHAFT |
| 64-3 | PSB1017063-3 | RIGHT GUIDE SHAFT |
| 64-4 | PSB1017063-4 | GUIDE EXT RETAINING RING |
| 64-5 | P6000ZZ | BALL BEARING 6000ZZ |
| 64-6 | PSB1017063-6 | BEARING PIN 10 X 36 |
| 64-7 | PN11 | HEX NUT 3/8-24 |
| 64-8 | PLW04 | LOCK WASHER 3/8 |
| 64-9 | PSB1017064-9 | FRONT BLADE GUIDE ARM |
| 64-10 | PB12 | HEX BOLT 5/16-18 X 1-1/4 |
| 64-11 | PLW01 | LOCK WASHER 5/16 |
| 64-12 | PW07 | FLAT WASHER 5/16 |
| 66 | PSB1018066 | BLADE GUIDE KNOB BOLT 3/8-16 X 1-1/4 |

| REF | PART # | DESCRIPTION |
|-------|--------------|---------------------------------|
| 69 | PB24 | HEX BOLT 3/8-16 X 1-1/4 |
| 72 | PSB1017072 | BEARING COVER |
| 74 | PK12M | KEY 5 X 5 X 30 |
| 83 | PB78 | HEX BOLT 1/2-13 X 1-1/4 |
| 84 | PSB1017084 | MOTOR MOUNT PLATE |
| 85 | PSB1018085 | MOTOR 1/2HP 110/220V 1PH |
| 85-1 | PSB1017085-1 | CORD STRAIN RELIEF |
| 85-2 | PSB1018085-2 | MOTOR FAN COVER |
| 85-3 | PSB1018085-3 | MOTOR FAN |
| 85-4 | PC200G | 5 CAPACITOR 200M 125V 1-3/8 X 3 |
| 85-5 | PSB1018085-5 | MOTOR JUNCTION BOX |
| 86 | PSB1017086 | MOTOR PULLEY |
| 86-1 | PSS17 | SET SCREW 5/16-18 X 5/16 |
| 89 | PSB1017089 | OIL SEAL TC 15 X 35 X 7 |
| 94 | PSB1017094 | WORM GEAR SHAFT ASSEMBLY |
| 94-1 | PSB1017094-1 | WORM GEAR SHAFT |
| 94-2 | P6202ZZ | BALL BEARING 6202ZZ |
| 94-3 | PSB1017094-3 | BUSHING |
| 98 | PCAP25 | CAP SCREW 5/16-18 X 1-3/4 |
| 99 | PW07 | FLAT WASHER 5/16 |
| 100 | PFH37 | FLAT HD SCR 8-32 X 3/8 |
| 101 | PSB1017101 | WORM GEAR PULLEY |
| 101-1 | PSS18 | SET SCREW 5/16-18 X 3/4 |
| 111 | PSB1017111 | BELT COVER |
| 111-1 | PSB1017111-1 | BELT COVER PANEL |
| 112 | PVA22 | V-BELT A22 |
| 116 | PW06 | FLAT WASHER 1/4 |
| 118 | PB19 | HEX BOLT 1/4-20 X 1/2 |
| 119 | PSB1018119 | PLASTIC WASHER |
| 132 | PSB1017132 | REAR GUIDE GUARD |
| 133 | PSB1017133 | FRONT GUIDE GUARD |
| 134 | PS23 | PHLP HD SCR 8-32 X 1/4 |
| 158 | PW06 | FLAT WASHER 1/4 |
| 159 | PB19 | HEX BOLT 1/4-20 X 1/2 |
| 160 | PS18 | PHLP HD SCR 10-24 X 1/4 |
| 161 | PSB1018161 | PLASTIC CUP |

Switch



| REF | PART # | DESCRIPTION |
|-------|--------------|--------------------------|
| 76 | PSB1018076 | SWITCH SHUT-OFF ASSEMBLY |
| 76-1 | PSB1018076-1 | SWITCH SHUT-OFF PLATE |
| 76-2 | PN05 | HEX NUT 1/4-20 |
| 76-3 | PB31 | HEX BOLT 1/4-20 X 1 |
| 76-4 | PB02 | HEX BOLT 1/4-20 X 5/8 |
| 76-5 | PW06 | FLAT WASHER 1/4 |
| 224 | PSB1018224 | SWITCH MOUNT ASSEMBLY |
| 224-1 | PB51 | HEX BOLT 1/4-20 X 3/8 |
| 224-2 | PLW02 | LOCK WASHER 1/4 |

| REF | PART # | DESCRIPTION |
|-------|--------------|-------------------------|
| 224-3 | PSB1018224-3 | SWITCH MOUNT PLATE |
| 224-4 | PSB1018224-4 | SWITCH HINGE PLATE |
| 224-5 | PSB1018224-5 | BUTTON HEAD CAP SCREW |
| 226 | PSB1018226 | SWITCH ASSEMBLY |
| 226-1 | PSB1018226-1 | SWITCH |
| 226-2 | PS52M | PHLP HD SCR M4-.7 X 20 |
| 226-3 | PSB1018226-3 | SWITCH BOX |
| 226-4 | PSB1018226-4 | CORD STRAIN RELIEF |
| 226-5 | PS22 | PHLP HD SCR 10-24 X 5/8 |

Machine Labels



| REF | PART # | DESCRIPTION |
|-----|--------------|------------------------------|
| 501 | PSB1018501 | MACHINE ID LABEL |
| 502 | PSB1018502 | MODEL NUMBER LABEL |
| 503 | PSBLABEL15S | ELECTRICITY LABEL |
| 504 | PSB1017304 | BELT COVER WARNING LABEL |
| 505 | PSBLABELO2HS | DISCONNECT WARNING LABEL |
| 506 | PSB1017306 | CUTTING HAZARD WARNING LABEL |
| 507 | PSBLABELO4HS | EYE INJURY WARNING LABEL |

| REF | PART # | DESCRIPTION |
|-----|--------------|----------------------------|
| 508 | PSBLABELO1HS | READ MANUAL LABEL |
| 509 | PSBLABEL13VS | DOOR CLOSED WARNING LABEL |
| 510 | PSBPAINTO1 | SB LT GRAY TOUCH-UP PAINT |
| 511 | PSBPAINTO3 | SB DK BLUE TOUCH-UP PAINT |
| 512 | SB1320 | SOUTH BEND NAMEPLATE 125MM |
| 513 | PSBPAINTO2 | SB LT BLUE TOUCH-UP PAINT |

⚠ WARNING

The safety labels provided with your machine are used to make the operator aware of the machine hazards and ways to prevent injury. The owner of this machine **MUST** maintain the original location and readability of these safety labels. If any label is removed or becomes unreadable, **REPLACE** that label before using the machine again. Contact South Bend Lathe Co. at (360) 734-1540 or www.southbendlathe.com to order new labels.

This quality product is warranted by South Bend Lathe Company to the original buyer for one year from the date of purchase. This warranty does not apply to consumable parts, or defects due to any kind of misuse, abuse, negligence, accidents, repairs, alterations or lack of maintenance. We do not reimburse for third party repairs. In no event shall we be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our products.

We do not warrant or represent that this machine complies with the provisions of any law, act, code, regulation, or standard of any domestic or foreign government, industry, or authority. In no event shall South Bend's liability under this warranty exceed the original purchase price paid for this machine. Any legal actions brought against South Bend Lathe Company shall be tried in the State of Washington, County of Whatcom.

This is the sole written warranty for this machine. Any and all warranties that may be implied by law, including any merchantability or fitness, for any purpose, are hereby limited to the duration of this warranty. To take advantage of this warranty, contact us by mail or phone to give us the details of the problem you are having.

Thank you for your business and continued support.



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